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SOME ELEMENTARY REFLEXIONS ON SENSE-PERCEPTION[1]

PROFESSOR C. D. BROAD

SENSE-PERCEPTION is a hackneyed topic, and I must therefore begin by craving your indulgence. I was moved to make it the subject of this evening's lecture by the fact that I have lately been reading the book in which the most important of the late Professor Prichard's scattered writings on Sense-perception have been collected by Sir W. D. Ross. Like everything that Prichard wrote, these essays are extremely acute, transparently honest, and admirably thorough. I shall not attempt here either to expound or to criticize Prichard, but he may be taken to be hovering, perhaps somewhat disapprovingly, in the background during the lecture.

"Sense-perception" is a technical term (and, I hasten to add, none the worse for that) used by philosophers and psychologists to cover the experiences which we describe in daily life as "seeing," "hearing," "touching," "tasting," "smelling," and perhaps some others. For human beings the three most important species are seeing, hearing, and touching. I shall confine myself to these.

Many philosophers have tended to concentrate on *seeing*, and to treat hearing and touching in a rather perfunctory way. That is a mistake. It is very rash to assume that what holds for seeing can be transferred without supplement, omission, or modification to hearing or to touching. Seeing is, as we shall find, in some ways a very peculiar form of sense-perception.

I want to begin by considering the three main forms of sense-perception from what I will call a "purely phenomenological point

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of view." By this I mean that I shall try to describe them as they appear to any unsophisticated percipient, and as they inevitably *go on appearing* even to sophisticated percipients whose knowledge of the physical and physiological processes involved assures them that the appearances are largely misleading.

Sentences which begin with the phrase "I see" or "I am seeing" continue with a word or phrase by which the speaker intends to denote or to describe something which he claims to be seeing, e.g., "a penny," "the Albert Memorial," "a blue cross on a yellow field," and so on. This latter word or phrase is generally a name for, or a description of, a *body* of some kind. But that is not so invariably. A person may say: "I see a red flash." Here what he claims to see is an *event* and not a thing.

It will be useful at once to compare and contrast this with *hearing*. It is about equally common to speak of hearing a *body* and of hearing a *sound*. Thus, e.g., one can say: "I hear Big Ben" and "I hear a series of booming noises." Now in this case even the plainest of plain men would admit, with very little pressure, that when he says "I am hearing Big Ben" this is short for what would be more fully expressed by saying "I am hearing Big Ben *striking*." With very little more pressure he would admit that all that he literally *hears* is a series of booming noises of a certain kind. He says that he hears Big Ben striking, because he believes or takes for granted that these sounds *emanate from* a certain bell as a result of a certain rhythmic process going on in it. In general I think that common-sense would readily accept the following translation of such sentences as "I am hearing so-and-so," where "so-and-so" is a name or a description of a body. Such sentences, it would agree, are equivalent to: "I am hearing such and such a *noise*, and I take it to be coming from the *body* so-and-so."

I do not think that it makes any essential difference to the above analysis whether what is heard is a discontinuous series of sounds, e.g., the tolling of a bell, or a long continuous sound, e.g., the roar of a waterfall. The continuous roar, like the discontinuous series of clangs, is taken to *emanate from* a certain body, as a result of a continuous physical process, instead of a discontinuous series of physical events, in it.

Now common-sense will not accept any such analysis of the sentence: "I am seeing the Albert Memorial." If you press a plain man with questions, you will easily get him to admit that all that he literally *sees* at any one moment is a *limited part* of the *outer surface* of a certain body. He will say that he *knows* that this must be continued and completed by areas which he is not at present seeing, so as to form the outside of a body, whether solid or hollow. And he will say that he *believes or takes for granted* or even "*knows*" that that body answers to the description of the Albert Memorial. But he will not

admit that what he really sees is either a very quick sequence of colour-events or a continuous colour-process analogous to the continuous roar of a waterfall. Nor will he admit that the only sense in which he can be said to see a body is that he takes for granted that these colour-events or this continuous colour-process *emanate from* a certain body. This would plainly be a complete misdescription of the experience which one has when one says that one is seeing a body, as that experience appears to oneself at the time.

This may be reinforced by considering cases where a person *would* say that he is seeing, e.g., a red flash or a continuous glare, i.e. a colour-event or a colour-process. Suppose that on a dark night I were to see a series of flashes of a certain kind at regular intervals in a certain direction. I might well say: "That is the so-and-so lighthouse." But I should not say that I *see* the lighthouse. If anyone were to ask me explicitly, I should say: "No! I can't see *it*; I see only the flashes which I take to be made by the lamp in it."

There is the following important phenomenological difference between hearing a sound and seeing a flash. It would no doubt be quite usual to say "That flash *comes from* the lighthouse," just as we say "That sound *comes from* the clock." But there is this difference. The flash is literally seen as an occurrence of a certain colour within a *limited* region *remote from* the percipient's body. It may even be seen as having a definite shape and size, as, e.g., in the case of seeing a flash of fork-lightning. But the noise is not literally heard as the occurrence of a certain sound-quality within a limited region remote from the percipient's body. It certainly is not heard as having any shape or size. It seems to be heard as *coming to* one from a certain direction, and it seems to be thought of as pervading with various degrees of intensity the whole of an indefinitely large region surrounding the centre from which it emanates.

We may sum this up as follows. In its purely phenomenological aspect *seeing* is ostensibly *saltatory*. It seems to leap the spatial gap between the percipient's body and a remote region of space. Then, again, it is ostensibly *prehensive* of the surfaces of distant bodies as coloured and extended, and of external events as colour-occurrences *localized* in remote regions of space. In its purely phenomenological aspect *hearing* is ostensibly prehensive, not of bodies, but only of events or processes as occurrences of sound-qualities. It is not ostensibly saltatory, for these events or processes are not heard as localized in remote restricted regions of space. They are heard rather as emanating from remote centres and pervading with diminishing intensity the surrounding space.

Let us now compare and contrast seeing and hearing with *feeling*, still from the purely phenomenological standpoint. In the case of feeling we must first draw a distinction between what may be called

its qualitative and its dynamical aspects. In the former it is more or less analogous to seeing and to hearing, but in the latter it is, so far as I can see, quite unique. When one has an experience which one would describe as "feeling a body," e.g., with one's hand, one feels it as rough or smooth, hard or soft, and so on. One also feels it as hot or cold. Both these features in the experience belong to its qualitative aspect, and we may distinguish them as "textural experiences" and "temperature-experiences." But closely bound up with the experience of feeling an external body is the experience of actively pushing or pulling it and making it move or stay still in spite of its varying degrees of resistance to one's efforts. This is an example of the dynamical aspect of the experience of feeling. Another example is the experience of trying and failing to move a resting body or to stop a moving one and failing because the resistance which it offers is too great. A third example is the experience of being forced to move in a certain direction by the thrust and pressure of a foreign body in spite of resisting to one's utmost. In these dynamic experiences one seems to oneself not merely to be prehending and exploring the surfaces of foreign bodies, as one seems to oneself to be doing in the case of sight. One seems also to be *interacting* with them, as one does not seem to oneself to be doing when one merely sees or hears them.

In the textural subdivision of its qualitative aspect the experience which we describe as "feeling a body" is much more closely akin to the experience which we describe as "seeing a body" than to any case of hearing. We never talk of feeling *events* or *processes* of roughness or smoothness or hardness or softness. In this respect feeling is ostensibly prehensive *only* of the *surface of bodies*. Just as we ostensibly see the surfaces of bodies, and see them as coloured in various ways, so we ostensibly feel them as rough or smooth, hard or soft. The difference here between sight and feeling is that the former is, and the latter is not, ostensibly saltatory. One can perceive a foreign body as rough or smooth, hard or soft, only when it is in contact with one's own body. It is a natural, if paradoxical, way of speaking to say that seeing seems to "bring one into direct *contact* with *remote* objects" and to reveal their shapes and colours, as feeling reveals the shapes and textures of objects which are literally in contact with one's skin.

When we consider temperature-experiences, however, we find that feeling provides an interesting intermediate case between hearing and seeing, in its phenomenological aspect. Suppose that one is in the neighbourhood of a fairly hot body, e.g., a radiator. Suppose that one gradually approaches it and finally touches it. While one is approaching it the feeling-experience is phenomenologically akin to the experience of hearing which one has when approaching a body which is emitting a continuous sound, e.g., a waterfall. The warmth,

like the roaring, seems to pervade the region surrounding the body and to be present in steadily increasing intensity in regions close to it. But when one finally touches the body one has a temperature sensation (combined of course for the first time with textural sensations, and it may be with pain-sensations and dynamic experiences) which is phenomenologically akin to the visual experience which one would describe as seeing the coloured surface of a body. The hotness is now felt as spread out over a limited localized surface, just as the colour is all along seen to be. We say *both* that a body is hot and that it emits warmth; we say that it is red, but *not* that it emits redness; and we say that it emits a roaring, but *not* that it has the auditory quality of roaringness.

I will now leave the purely phenomenological description of the three main forms of human sense-perception, and begin to take into account what we know or believe about the physical processes involved in them. In the light of this knowledge or well-founded belief we can consider whether the phenomenological character of these experiences is or is not misleading as an indication of their epistemological character.

The first important fact that emerges is that, as regards its physical conditions, seeing is almost exactly analogous to hearing, although phenomenologically the two kinds of experience are so extremely unlike. From the physical standpoint seeing a body which is self-luminous, e.g., the sun or a glowing wire, is almost exactly like hearing the roar of a waterfall. From the phenomenological standpoint, as we have seen, the two experiences differ in kind. The former appears to the percipient as the prehension of the coloured surface of a remote definitely localized body, whilst the latter appears to him as the prehension of a process coming to him from a distant centre and pervading the intervening space.

The physical theory of sound fits in very easily with the phenomenological character of the experience of hearing. One can see or feel the clapper of a bell striking the inside of it, and can see or feel the surface throbbing. One can stamp one's foot at one end of a gallery and hear the echo appreciably later than the sound of the original stamping. So we have no difficulty in accepting the fact that one hears a sound when and only when a certain process, set up in the intervening air by the vibration of a distant body, reaches one's ears. But the physical theory of light conflicts sharply with the phenomenological character of the experience of seeing.

Nevertheless, the theory of geometrical optics and the later theory of physical optics are of course based on a systematic study of our experiences of seeing and feeling. Geometrical optics is based on correlating experiences of normal direct vision through a homogeneous medium with experiences of seeing in mirrors of various

forms, of seeing through non-homogeneous media of various densities, and so on. Physical optics is based on a further correlation of all this with more recondite experiences of seeing, which can be had only by making astronomical observations or doing specially designed physical experiments.

Now as soon as one ceases to confine one's attention to completely standard cases of direct vision through a homogeneous medium, it becomes quite plain that seeing is radically different from what it appears *prima facie* to be. Before going into detail it will be as well to consider the logical principles involved.

Suppose that the experience which one should naturally describe as "seeing a body of a certain shape and colour at a certain place" really consists in or involves prehending a certain part of the surface of such a body at that place. Then it is *logically* impossible that that experience should have occurred when it did, unless there was at that time a body in that place, such that the part of its surface which was then facing one had the shape and the colour which one then saw. For that is part of what is *meant* by this account of the experience. It is important to notice that the mere fact that a transmissive process must take place in the intervening space and must affect one's eye, if the experience is to occur, is not by itself a conclusive objection. For this might be merely a causally necessary, but insufficient, condition for the occurrence of the experience. It is logically possible that this condition might be fulfilled and yet that the experience could not occur unless there were at that time a body of the required kind at the place in question. What would be fatal to the prehensive account of the experience would be if it could be shown that, provided one's eye is suitably affected, the experience may arise even though no such body is then occupying the place in question. Now there are emprical facts which make this practically certain.

Nothing more recondite than vision in a plane mirror is needed to justify this statement. Suppose one stands facing such a mirror and holds up one's *right* hand with the palm facing the mirror. Then one seems to see a hand, with the palm facing one, held up at a place some distance behind the surface of the mirror. Now we know very well that there is no such body in that place at the time. Moreover, what one seems to see presents the appearance which would be presented, *not* by one's right hand, but by one's *left* hand, if it were held up with the palm facing one at the place behind the mirror where one seems to see a hand. Yet here, just as much as in the most normal case of direct vision through a homogeneous medium, one seems to oneself to be prehending a part of the coloured surface of a certain body in a certain region of space remote from that occupied by one's head and eyes. This unavoidable appearance is *here* certainly

misleading. No doubt it would be possible in theory to admit this, and yet to maintain that in the one case of direct vision through a homogeneous medium one really is (as one appears to oneself to be in *all* cases) prehending a part of the coloured surface of a remote foreign body. But, in view of the continuity between the most normal and the most abnormal cases of seeing, such a doctrine would be utterly unplausible and could be defended only by the most desperate special pleading.

The conclusion that the phenomenological character of the experience of seeing is a radically misleading guide to its epistemological character is strongly reinforced when we take into account the empirical facts which lie at the basis of the statement that light has a finite velocity. Suppose that on a certain occasion a person has an experience which he would naturally describe by saying that he sees a certain star in a certain direction. There is overwhelming evidence that he would be having precisely the same kind of experience on that occasion even if the star had ceased to exist for many years or had long ago moved into a quite different position relative to his body. That is to say, at the time when a sane waking person has an experience, which inevitably appears to him to be a prehension of a certain remote coloured body as now lying in a certain direction relative to his own, there may be nothing answering even remotely to the description of such a body anywhere in that direction. Therefore the phenomenological character of the experience is completely misleading as to its epistemological character.

Let us next consider the epistemological character of experiences of feeling. If we confine our attention to the waking experiences of sane persons in normal health, there is, so far as I know, little specific ground for doubting that touch is, as it appears to be, prehensive of the surfaces of foreign bodies in contact with one's own. The only direct counter-evidence that I know of is the experience of seeming to feel *two* bodies in contact with one's skin at a place where one's own sight and the sight and touch of others testify to the presence of only one. Such experiences are by no means common; for my own part I have seldom managed to get the experience of "feeling double." As regards the dynamical aspect of feeling, I do not know of any case of a sane waking person having an experience which he would naturally describe as pushing or pulling or being pushed or pulled by a foreign body, when there is good reason to hold that no such interaction is taking place. No doubt, if we take into account the dreams of sane persons in normal health and the experiences of madmen and of persons in delirium, the case is altered. In any dream the dreamer may seem to himself to be touching foreign bodies which feel rough or smooth, hot or cold. And in nightmares he may seem to himself to be struggling desperately to free himself

from the weight or the grip of a foreign body. So it must be admitted that experiences, which are phenomenologically indistinguishable from waking experiences in which we say that we are feeling and interacting with a foreign body, can and do occur when the experient is not in fact prehending by touch or interacting with any such body.

I pass now from the physical to the anatomical and physiological conditions of our experiences of seeing, hearing, and feeling. There seems to be overwhelming evidence for the following statement. Even when a person's eyes or ears or skin are stimulated by the appropriate physical stimulus, he does not have any corresponding experience of seeing or hearing or feeling unless and until a certain internal change is transmitted from the stimulated sense-organ to a certain part of his brain and sets up some kind of disturbance there.

Now we can begin by making the same remark about this fact as we have already made about the fact that seeing or hearing do not occur unless and until a physical process of transmission has taken place in the medium between the foreign body and the eye or ear. The physiological and anatomical facts just stated do not suffice to prove that seeing, hearing, and feeling are not, as they inevitably appear to the experient to be, prehensions of external things or events and of certain of their intrinsic qualities. It might be that these processes in the sensory nerves and the brain are a causally necessary, but insufficient, condition for the occurrence of such experiences. It is logically possible that this condition might be fulfilled, and yet that one would not have an experience which one would naturally describe as seeing or hearing or feeling an external object of a certain kind in a certain place unless there were at the time an external object answering to one's description at the place in question. What would be fatal to the prehensive account of these experiences would be if it could be shown that, provided a certain area of one's brain were suitably affected, such an experience might occur even though no such object were then occupying the place in question. Now the visual, auditory, and tactual experiences which occur in dreaming and in waking hallucination seem to make this practically certain.

There is a logical point which should be emphasized here. Suppose it could be shown that the occurrence of a certain disturbance in a certain part of a person's brain at a certain time is the immediate *sufficient* condition of his then having an experience which he would naturally describe as seeing or hearing or feeling a foreign object of a certain kind in a certain place. Then it would follow at once that the actual presence of such an object in that place at that time *cannot* be a *necessary* condition of the occurrence of the experience. From this it would follow at once that the experience *cannot* be, as it appears to be to the person who has it, a prehension of the object in

question. In that case the utmost that could be alleged is that the presence of such an object in the place in question at a somewhat *earlier* date is an indispensable *causal ancestor* of that disturbance in the brain which is the immediate sufficient condition of the occurrence of the experience.

Now I do not wish to commit myself to the sweeping assertion that the occurrence of a certain kind of disturbance in a certain part of a person's brain is the immediate *sufficient* condition, as distinct from an immediate necessary condition, of his having an experience which he would naturally describe as seeing, hearing, or feeling a certain kind of foreign object in a certain place. Therefore I cannot use the knock-down argument which I have outlined above. But that is not really needed in order to refute the prehensive account of such experiences. All that is needed is to show that a person can have experiences, which he would naturally describe as seeing or hearing or feeling a foreign object at a certain place, at a time when there is in fact no such object at that place. For this purpose it is enough to adduce the visual, tactual, and auditory experiences which occur in dreaming and in waking hallucination, and the visual experiences of "seeing" a mirror-image or a distant star which no longer exists.

It would, no doubt, be theoretically possible to admit the conclusion about dreams and waking hallucinations, and yet to maintain that a sane waking man, in his *tactual* experiences at any rate, really is prehending a part of the intrinsically hot or cold, rough or smooth, surface of a foreign body in contact with his skin. But anyone who does so is committed to the following paradox. He has to hold that the tactual experiences of dreams and hallucinations, on the one hand, and those of normal waking life, on the other, are utterly different in their epistemological character, in spite of being exactly alike in their phenomenological character. There is one respect, and one only, in which his position is less paradoxical than that of a person who should maintain that direct vision through a homogeneous medium is prehensive of remote foreign objects, whilst admitting that vision in a mirror or through a non-homogeneous medium cannot be so. There is a continuous series of intermediate cases between the most normal and the queerest instances of seeing by sane waking men. But there is no such series of intermediate cases between dreaming or waking hallucination, on the one hand, and normal waking sense-perception, on the other.

There is one other point which should be mentioned before leaving the present part of our topic. It might be alleged with considerable plausibility that a person could not have dreams or waking hallucinations unless and until he had had a good deal of normal waking sense-perception. It might further be remarked that we do in fact distinguish between our dreams and waking hallucinations, on the

one hand, and our normal waking sense-perceptions, on the other. Now I think that some people would be inclined to hold that these observations undermine the argument from the occurrence of dreams and waking hallucinations to the non-prehensive character of normal waking sense-perceptions. Such a contention is, I think, mistaken.

The argument which is alleged to be undermined comes simply to this. There are certain experiences, viz., dreams and waking hallucinations, which exactly resemble normal waking sense-perceptions in all their phenomenological characteristics (including that of being ostensibly prehensive of foreign bodies and external physical events), but which are certainly not in fact prehensions of any such objects. It seems most unlikely that experiences which exactly resemble these in all their phenomenological characteristics, as do normal waking sense-perceptions, should be fundamentally unlike them in their epistemological character.

Now the mere fact that to have had normal waking sense-perceptions is a necessary causal precondition for having dreams and waking hallucinations does not entail or even make probable that the former differ fundamentally in their epistemological character from the latter. So this alleged fact is irrelevant to the validity of the argument and to the truth of its conclusion.

The fact that we do manage to distinguish between our dreams and waking hallucinations on the one hand, and our normal waking sense-perceptions on the other, might seem at first sight to be relevant in the following way. It might seem to be incompatible with the premiss that dreams and hallucinations exactly resemble normal waking sense-perceptions in all their phenomenological characteristics. That, however, is a mistake. We do not distinguish the two kinds of experience by noting dissimilarities in their *phenomenological* character. We do so by considering the *inter-relations* of experiences with the earlier and later experiences of the same person and the contemporary experiences of others.

On the whole, then, I see nothing for it but to draw the following conclusion. Our waking experiences of seeing, hearing, and touching are not, as they appear to us to be, prehensions of foreign bodies and physical events and of certain of their intrinsic qualities.

We are now in a position to consider the notion of "sense-data" or "sensa," which played so great a part in the philosophy of sense-perception in the first thirty years of this century and has been so heavily belaboured since then. It seems to me that the best way to approach the question is the following. For such reasons as I have given above, most philosophers have felt obliged to deny that experiences of seeing, hearing, or feeling are prehensions of foreign bodies and physical events, and to deny that they even contain prehensions of such entities as constituents. To that extent they felt

obliged to hold that the phenomenological character of such experiences is a misleading guide to their epistemological character. But many of them saw no reason to think that the phenomenological character of these experiences is so radically misleading as it would be if they were not *prehensions of anything* and did not even contain as constituents *prehensions of anything*. They therefore assumed without question that these experiences really are, as they appear to be to those who have them, *prehensions of particulars of some kind*, though not of the surfaces of bodies or of physical events. And they assumed without question that the qualities, such as redness, squeakiness, hotness, etc., which we *seem* to ourselves to prehend on the surfaces of bodies or in physical events, really do belong to, and are prehended in, these non-physical particulars.

We can now give a description of the technical term "sensum" or "sense-datum." We give this name to that particular which a person *really is* prehending in any experience in which he *appears to himself* to be prehending a physical event or a part of the surface of a body. We give it on the double assumption (i) that he *is* prehending a particular of some kind, and (ii) that he is *not* prehending a physical event or a part of the surface of a body. If this account of the meaning of the term be accepted, one thing at least is certain. The use of it presupposes a positive doctrine, viz., that experiences of seeing, feeling, and hearing do consist in or involve *prehending* a particular of *some kind*, which has, and is prehended as having, a certain intrinsic quality, e.g., redness or hotness or squeakiness. Unless this assumption is true there is nothing answering to the above description of a "sensum" or "sense-datum." So the question arises whether there is any reason to doubt this assumption.

In order to deal with this we must now consider more carefully a notion which I have so far left undiscussed, viz., that of prehending a particular. I have intended to use this phrase as equivalent to one which was introduced many years ago by Earl Russell, viz., "being *acquainted with* a particular." I prefer this terminology to Russell's for the following purely linguistic reason. An essential feature of any experience which Russell would describe as "being acquainted with a certain particular" is that the latter presents itself to the experient as having a certain quality, e.g., as red, as hot, as squeaky, etc. Now it is linguistically awkward to say that a person is "acquainted with a certain particular as red." But it is not unnatural to say that a person "prehends a certain particular as red." I use the expression "S prehends x as red" as precisely equivalent to the phrase "x sensibly presents itself to S as red."

The meaning of these phrases cannot be defined, it can only be exemplified. One thing that is certain is that to prehend x as red is utterly different from *judging* that it is red or *knowing* that it is red.

In the dark and with my eyes shut I can judge that my doctor's gown is red, and in one sense of "know" I may be said to know that it is red. But in such conditions I am not prehending anything as red, or, what is precisely equivalent, nothing is being sensibly presented to me as red. Consider, again, the case of a cat or a dog, which has eyes very much like ours, but presumably lacks general concepts and therefore cannot literally know or judge that a certain predicate belongs to a certain subject. It may have, and very likely does have, experiences which would be described by saying that certain particulars sensibly present themselves to it as red or as hot or as squeaky.

It is generally taken to be meaningless to suggest that a particular which was not in fact red could sensibly present itself as red, or, what is equivalent, could be prehended as red. Suppose that a creature, which has appropriate general concepts and is capable of making judgments and knowing facts, prehends a certain particular as red. Then, it would commonly be said, this experience suffices to enable him to *know* the fact that it is red. Whether he does or does not *actually* contemplate this fact at the time depends on various contingent circumstances. These remarks about prehending are perfectly general; they would apply equally if we substituted for "red," which I have merely taken as an example, such words as "hot," "squeaky," etc.

I do not think it is worth while to spend much time over the question whether prehending could properly be described as a form of *knowing*. If we use "know" in such a way that what is known must be a *fact*, it is certain that prehending would not be a form of knowing. For, if we prehend anything, it is *particulars*. But the word "know" is often used as principal verb in a sentence in which the grammatical object is not a subordinate clause of the form "that *S* is *P*," but is the name or description of a particular. I should say, e.g., "I knew McTaggart, but I did not know Sidgwick." In many languages these two senses of "know" are expressed by different words, e.g., in German by *wissen* and *kennen*. There is therefore nothing in the usage of the word "know" to rule out the suggestion that prehending might properly be described as a form of "knowing," in the sense of "kenning" though not in that of "witting." A more substantial point is this. Even if prehending could not be properly described as a form of knowing, in either of these senses, it is conceived, as we have seen, to be most intimately bound up with the possibility of knowing certain facts about the particulars prehended.

I will now try to say what I think is involved in asserting that certain experiences are prehensions of particulars of some kind as having certain intrinsic qualities. (1) The phrase "being a prehension

of" is taken to denote a certain *relation* which holds between *experiences* of certain kinds and *particulars* of certain kinds." Examples of such experiences are visual, tactual, and auditory sensations. (2) The particulars in question are such that adjectives like "red," "hot," "squeaky," etc. (used in the *non-dispositional* sense in which they occur in such sentences as "This *looks* red to me," "This *feels* hot to me," and so on), can be predicated of them. (3) If an experience e is a prehension of a particular x, it is *ipso facto* a prehension of x as having a certain quality c; and it is logically impossible that x should be prehended as having c unless it does in fact have c. (4) Corresponding to any such experience e there is *one and only one* such particular x, of which e is a prehension. This may therefore be described as "*the* particular of which e is a prehension." (5) It is *logically* possible that a particular, which was in fact prehended on a certain occasion by a certain person as having a certain quality, should have existed and had that quality at that time even though it had not been prehended either by him or by anyone else. (6) It is *logically* possible that there should be particulars which are never prehended by anyone, but are of the same kinds as those which are actually prehended. Thus, e.g., it is logically possible that there should be particulars which are squeaky, in the sense in which that word is used in the sentence "That sounds squeaky," but which are not prehended by anyone. (7) It is *logically* possible that a particular, which was in fact prehended on a certain occasion by a certain person, should then have been prehended by *another* person, either instead of or in addition to the one who actually prehended it.

It should be noted that in all these statements I have been careful to use the phrase "*logically* possible," i.e., not internally inconsistent nor inconsistent with any *a priori* truth. If we were to substitute for this the phrase "*causally* possible," i.e., not inconsistent with any actual law of nature, the case would be altered. Take, e.g., the case of a person who holds that auditory sensations are prehensions. He could consistently hold that it is *causally* impossible for there to be a squeak which is not prehended by anyone. He could consistently hold that it is *causally* impossible that the very same squeak which is prehended by one person should be prehended by any other. What he could not consistently hold is that these suggestions are *logically* impossible. I think that we ought, nevertheless, to realize that such a person would be asserting an extremely queer proposition. So far as I can see, he would have to assert that the conditions which are *causally necessary* to produce a squeaky particular are always *causally sufficient* to evoke in a certain *one* person an experience which is a prehension of that particular as squeaky. And he would have to add that they are also causally sufficient to ensure the *non-occurrence* of such an experience in *any other* person. The following would be a

particular instance of this general proposition. It might be held that the occurrence of a certain event in a certain person's brain is causally necessary to *generate* a squeaky particular. It might be held that this event is also causally sufficient to evoke in that person's mind an experience which is a prehension of that particular as squeaky. And, finally, it might be held that the fact that this event happens in the brain of *that* person suffices to ensure that no such experience will be evoked in the mind of *any other* person. It should be noted that the evidence for the general proposition, or for this or any other specialization of it, would have to be empirical. It is not easy to see what adequate empirical evidence there could be.

It remains to consider, very briefly, the main grounds which might be alleged for doubting the prehensive account of visual, auditory, and tactual sensations, and therefore for doubting whether there is anything answering to the description of "sensa" or "sense-data."

(1) It seems just as plausible to hold that one is prehending something as coloured or as squeaky in the case of dreaming and imaging as in the case of normal waking sense-perception. Now on reflection it would appear to many persons to be, not merely causally impossible, but *absurd* to suppose that a visual or auditory image or the contents of a dream could exist except as contents of a certain one person's experience of imaging or dreaming on a certain one occasion. If that is true, it cannot be a correct account of the visual, tactual, or auditory experiences of imaging or dreaming to say that they consist in prehending certain particulars as red, as squeaky, as cold, and so on. But the only reason for accepting the prehensive account of the visual, tactual, and auditory experiences of normal waking life was that in them one seems to oneself to be prehending *something* as red or as squeaky or as cold, etc., even though reflection shows us that these "somethings" cannot be bodies or physical events. Now, whatever we may say of imaging, there is no doubt that the visual, tactual, and auditory experiences of dreaming are indistinguishable in their phenomenological character from those of normal waking life. If, then, the former cannot be regarded as prehensions of particulars of *any kind*, and the latter cannot be regarded as prehensions of *bodies* or of *physical events* (which is what they seem *prima facie* to be), there seems to be little ground for regarding the latter as prehensions of *anything*.

(2) The line of argument just stated is of course not demonstrative, even if one accepts its premisses. But many persons would be inclined to use the following more radical argument. They would say that it seems evident to them on reflexion that words like "red," "hot," "squeaky," etc., in their primary *non-dispositional* sense, can occur significantly only in such sentences as "This *looks* red to me," "This *feels* hot to me," "This *sounds* squeaky to me," and so

on. They would allege that whenever these words are used significantly in sentences such as "This *is* red," "This *is* hot," or "This *is* squeaky," they are used in a *dispositional* sense. Thus, it would be said, "This *is* red" is significant only if it is interpreted as "This *would* look red to any person of normal eyesight under certain standard conditions of vision." And the others are significant only if they are interpreted *mutatis mutandis* in a similar way. Now the prehensive analysis of visual, tactual, and auditory sensations presupposes that there are entities which *are* red or hot or squeaky, where these words are used in the non-dispositional sense in which they are used in such sentences as "This looks red to me" or "This feels hot to me" or "This sounds squeaky to me." For the prehensive analysis asserts that to have a visual or tactual or auditory sensation is to prehend a particular which *has* a certain colour-quality or temperature—quality or sound-quality. Having such a sensation just consists in prehending a certain particular as having a certain quality, e.g., redness, which it does in fact have. Thus, if the premiss of this argument be accepted, the prehensive account of visual, tactual, and auditory sensations cannot be correct, and there can be nothing answering to the description of "sensa" or "sense-data" given earlier in this paper.

(3) A final consideration which might be urged against the prehensive analysis is this. The only ground for holding that visual, tactual, and auditory experiences are prehensions of particulars of *some* kind is the fact that they inevitably seem to us to be such while we are having them. But they seem to us, while we are having them, to be prehensions of *bodies* and *physical events*. Now it has to be admitted that this is a delusion. Once that is admitted can we safely go on holding that they are prehensions of *anything*? Is it really credible that, if they were prehensions of particulars, they could be completely misleading as to the nature of those particulars?

University of Cambridge.

THE NATURE OF AESTHETIC EXPERIENCE[1]

THE EARL OF LISTOWEL, P.C., Ph.D.

THE traditional business of Aesthetics has been the study of the aesthetic experience and activity of mankind, in order to show what it is and how it can be distinguished from other experiences and activities. The assumption commonly made is that we ourselves, like others before us, have had a specifically aesthetic experience in the enjoyment of art or the beauty of nature, or have been engaged in the making of something unquestionably artistic. This basic assumption has been challenged recently by I. A. Richards, who calls aesthetic experience "a phantom." His view is shared by other contemporary philosophers, who also maintain that there is no appreciable difference between an aesthetic reaction and any other frame of mind, or between artistic behaviour and other forms of creative work. We can certainly appeal to experience for the support of a postulate usually taken for granted and say that most artists, authors, and ordinary people in fact regard their aesthetic experience as something entirely distinct from what they do or feel at other times. Analysis will show whether this common-sense opinion is illusory.

The main emphasis has been placed on different aspects of aesthetic experience by different writers, according to the angle of personal interest from which each has approached the problem of beauty. Some have been concerned with beauty as a philosophical value, with its relation to other values, and to philosophy as an interpretation of the universe. Some have studied the delight we take in art or nature, others the activity of the artist at his work, and others still the structure of the fine or applied arts which primitive and civilized cultures have produced at different epochs in history and prehistory. In this lecture, I shall place my emphasis on the sort of experience with which we are all familiar when we join an audience at a theatre, wander round a picture gallery, or range the countryside. But as our appreciation of art or nature is a response to something outside us, and as the structure of this outside object conditions and qualifies what we feel, it is impossible to understand how and why we respond aesthetically to things without examining carefully the external stimulus as well as what happens in our minds. It may perhaps be asked whether it is really possible to assess the significance of art, or to find out what it is that constitutes the aesthetic aspect of the onlooker's experience, if the artist himself is left out of account.

[1] Lecture given to the Royal Institute of Philosophy on March 16, 1951.

Is there not something peculiar and unique about the vision of the practising artist, and the process whereby he moulds his material into the shape of an original imaginative conception? I do not think that the activity of an artist differs substantially, in any aesthetic respect, from that of the spectator who looks at or listens to his work. What the artist tries to do, and succeeds in doing if he is a competent artist, is to communicate his imaginative vision and emotion to those capable of appreciating his work. For they reproduce in themselves, at the moment of contact with it, more or less precisely the imaginative experience it has embodied. A work of art transmits to others the emotional mood in which it was conceived and of which it is the embodiment or expression. The great critics and interpreters of art are those whose imaginative stature equals that of the artists whom they interpret. Indeed, the experience of the onlooker or critic, when it is vivid and adequate to the object, is often purer than that of the original artist. The artist is prompted to write or paint or compose by a strange and varied assortment of motives and intentions. He may have been animated by social ambition or the need for money, or the desire to be recognized and to please. He may equally have been impelled by religious belief, patriotic enthusiasm, or other aesthetically irrelevant considerations. In judging his own finished product, or those of other artists, he is apt to look for technical accomplishment, and often overlooks the genuinely aesthetic appeal. What distinguishes the artist from the laymen is not a keener insight into the nature of beauty, but the knowledge and application of a particular technique. A painter or a musician is a man who has acquired, by study and experiment, a technical skill which was originally part of his social heritage, and which enables him to learn how to model, to draw, or to compose. Academicians are none the less artists when they have an admirable technique but nothing to say. There is therefore no reason to doubt that a careful analysis of the impression made by works of art upon a sensitive observer will also reveal the specifically aesthetic element in the experience of the artist, which depends only for its transmission on technical skill.

It is generally agreed among writers on our subject that the experience of beauty takes place at the level of perception, and that we do not derive aesthetic satisfaction from isolated sensations, or from the processes of reasoning and conceptual thought. Croce, of course, has maintained that aesthetic experience is co-extensive with the whole field of perception. I do not think this view is borne out by common sense. It is surely the case that most of the things we see or hear in daily life leave us unmoved, aesthetically indifferent, and that some only of the objects that we encounter occasion anything that we can fairly describe as aesthetic satisfaction or the reverse. We

should therefore aim at finding out what distinguishes an aesthetic reaction from the mere awareness of what goes on around us. What is it that renders our attitude of mind when we are reading poetry, or admiring a sunset, different from the attitude of mind in which we read a text-book, or view an appetizing meal? The first and obvious distinction is one that has been drawn, in varying terms, by almost every writer on aesthetics. The aesthetic attitude, they have asserted, is contemplative and disinterested, because it is free from the personal desires and interests which influence us in our practical relations with our environment, and from the cognitive interests of pure curiosity. It is an attitude, so far as we are aware, confined to the human species, and even so an interruption of our normal response to the self-regarding impulses which shape our conduct. The utilitarian requirements of earning a living or getting on in society, the appetities of hunger, thirst, or sexual desire, subordinate the objects in our surroundings to a variety of personal wants and purposes. We regard them as a means for the satisfaction of these private needs, not as ends in themselves. The necessary preliminary to an aesthetic relationship with our environment is to regard the objects we see or hear as ends in themselves, and not as instruments for obtaining our personal ends. We cannot do this without discarding momentarily the utilitarian or practical approach to which we are accustomed. It is the difference between seeing and looking, between hearing and listening. Bullough has well described this psychological adjustment as "a putting of the object out of gear with our practical needs and ends." This enables us, for example, even in these days of a somewhat exiguous meat ration, to enjoy a flayed carcase by Rembrandt without wanting to take it home.

It may be argued that psycho-analysis has shown that some works of art afford satisfaction for repressed infantile desires. There is an element of truth in the psycho-analytic contention that material of this kind sometimes finds its way into art. But it should be noted that both we as spectators, and the artist who uses this material, are gratifying imagined rather than real desires. And there is no conflict, as we shall see later on, between an imagined feeling or desire and the contemplative state of mind. The real desires may be violent and even destructive, but their imaginative counterpart is not powerful enough to disturb the aesthetic equilibrium.

But the requirement that our observation of art should be devoid of practical bias is not sufficient in itself. A theoretical or speculative bias is equally harmful. We must not ask ourselves what an object is from the point of view of chemical or physical analysis, or through what chain of causal agencies it has become what it is. For it ceases immediately to be an aesthetic object if we approach it from the standpoint of a scientist, a psychologist, a sociologist, or an art

historian. The object we are contemplating loses its individuality and disappears from view as soon as it becomes a typical example of a school or style of art, or the final product of a variety of social and stylistic influences. The genuine aesthetic object, whether we find it in art or nature, is always something unique. No two poems or pictures, no two persons, no two trees or leaves on the same tree are precisely identical. What we do in aesthetic contemplation is to focus our attention upon one person or upon one thing just as it appears in our field of consciousness, with its full complement of sensuous qualities, its formal structure, and its intellectual and emotional significance. And this act of concentrated attention deprives it of its external relations. As a real thing it has a past as well as a present, and is woven into a net-work of relations with all its neighbours in space. But aesthetic objects, at the moment of contemplation, are cut off from the past and the future, and isolated from surrounding space. This process of psychological isolation is often assisted by physical means, such as the frame of a picture, the pedestal of a statue, or the proscenium of a theatre.

The disinterested or detached quality of the attitude to beauty, which has so often been described in the writings of philosophers and art critics, has usually, and I think rightly, been regarded as a *sine qua non* of aesthetic experience. But although this semi-automatic psychological adjustment is essential if we want to respond adequately to the qualities of an aesthetic object, it does not follow that by deliberately making the adjustment we shall necessarily find ourselves experiencing beauty. If we empty our consciousness of its usual baggage of thoughts and wishes and feelings, and concentrate our whole attention upon a patch of drab distemper, or close our eyes so as to be absorbed in the strident noises of a busy street, our complete detachment from practical and theoretical pre-occupations will not be rewarded by the faintest trace of aesthetic satisfaction. The obvious conclusion is that the disinterestedness of the onlooker is indeed a necessary but not a sufficient condition for the experience of beauty. The right state of mind needs to be related to the right object for the right experience to follow.

The aesthetic object owes much of its appeal to the direct impression it makes upon our sense organs. Let us examine for a moment this sensory factor in the appreciation of art and nature. It is a commonplace that painters have an eye for effects of colour and light, musicians an ear for the quality of musical sounds, and poets a peculiar sensitivity to the sensuous and evocative qualities of language. The higher senses, sight and hearing, have often been regarded as bringing a particularly important contribution to art and its enjoyment. They alone introduce us to whole objects, which can easily be viewed with detachment because they are at a distance

from our own bodies. It is not until recently that the contribution of the other senses has been fully recognized. It is true of course, that our inner sensations, muscular or organic, and the senses of touch, temperature, and taste, register the changing conditions of our own bodies, and cannot therefore contribute directly to the satisfaction we derive from an aesthetic object. But the sense of smell has become so divorced from its biological function in the human species that it can now be fairly regarded as a channel of aesthetic pleasure. Everyone will recollect the variety of field and garden scents to be found in the English countryside. Now we locate these scents, not in our noses, but in the objects—the flowers, fields, and so on—which waft them to our nostrils. They can therefore add to the pleasure we get from the shapes and the sensuous qualities, and even the character, of scenes encountered at different seasons in the country.

But the vividness and discrimination of all our senses, internal as well as external, lower as well as higher, are of special value in our reaction to an aesthetic stimulus when we reproduce or revive the quality of past sensations. We not only recognize the familiar sensuous qualities of an object, we sometimes feel them. This feeling of the object's sensuous qualities is brought about by a revival in imagination of the real sensations corresponding to the qualities we perceive. When we read descriptive poetry, or look at a sunny or snowy landscape, or the portrait of some richly caparisoned personage, or watch the scudding clouds, there takes place what the Germans have called an *Einempfindung*, a spontaneous fusion of our own imagined sensations with the appropriate features of the object. There are six lines in the "Eve of St. Agnes" in which Keats has used our senses of colour, sound, smell, taste, and touch to complete his picture of voluptuous repose.

> And still she slept an azure-lidded sleep,
> In blanched linen, smooth and lavender'd,
> While he from forth the closet brought a heap
> Of candied apple, quince, and plum, and gourd;
> With jellies soother than the creamy curd,
> And lucent syrups, tinct with cinnamon.

This is an example of the way in which we contribute tactile, olfactory, and other types of imagined sensation to the visual images of poetry. We often fill in the contours and colours of physical objects in the same way, solely by imagination, and without any direct contact between an external stimulus and our sensory nerves. We say quite rightly that we see the bitter cold of the snow, the warmth of bright sunshine, the smooth or coarse texture of different materials, the strength and exertion of human figures that climb or run or fight,

and the relaxation of the body at rest. This projection of imagined sensations is, of course, a common accompaniment of perception. But it seems only to come fully into play when the inhibiting influence of casual or cognitive acquaintanceship has been removed.

This fusion of remembered sense-data with real or imagined objects is quite different from the linking of one thing with another by association with our past experience. A sound or a colour or a smell may suddenly remind us of a happy holiday episode, or a person we like. But you will observe that such fortuitous associations, unlike fused perception, are not a direct response to a particular stimulus For the thing perceived merely stirs up a slow process of reverie or recollection. Moreover, associations of this kind throw into relief particular occasions in our own past, and are not relevant to the structure and individuality of the object. Different people will be reminded of different events, and their experience will not be the common response of the perfectly attuned spectator.

The contribution of the different senses, and their relative prominence, vary from one work of art and from one art form to another. The role of touch and motor or muscular sensations in the visual arts, important as it is, has sometimes been emphasized to the exclusion of other factors yet more essential. You will remember that Vernon Lee coined the expression "aesthetic empathy" to describe the way we attribute "our own modes of dynamic experience, motor ideas, to shapes," and that more recently that admirable critic B. Berenson has built a whole theory of visual art on tactile and muscular sensations. His failure to assess the relative significance of the formal and representative features of painting and sculpture has led him to claim that "tactile values and movement are the essential qualities in the figure arts." This theory suffers from the exclusiveness of all theories that whittle down aesthetic experience to a single cause or feeling, or to the perception of a simple quality. It is all the more inadequate because it limits our experience of these arts to the level of imagined sensation. But it serves as a useful antidote when other art critics claim that the formal regularity of design is the sole virtue in the painter's art.

I think it would be generally agreed that all the senses enhance the vividness and increase the pleasure of our aesthetic experience. But their limited effect can only be gauged accurately when considered in a broader context. They make us aware of a fragment, a single aspect of the whole aesthetic object, which consists in part only of its sensuous qualities. Even the simplest colour or shape has form and often character as well. The sensory factor in aesthetic experience is therefore a part of the total impression, and can only be isolated in post facto analysis from the whole to which it belongs.

Another feature of the aesthetic object, as we grasp it in perception, is the arrangement of and relation between the lines, colours, shapes, tones, or words that constitute its peculiar form. I am using this ambiguous noun not in the dictionary sense as the shape or outline of a thing or person, nor in a technical sense peculiar to philosophy, but in the sense in which it is often used to connote a relationship of similarity or resemblance which knits together the parts of an aesthetic object. We frequently refer to this relationship as proportion, symmetry, balance, design, when we meet it in the spatial arts of architecture, painting, and sculpture, as rhythm or rhythmic movement in the temporal arts of poetry, music, and the dance. It is the regularity of a spatial or temporal pattern which knits a painting or a musical composition into a unified whole. These common features of a complex whole have often been described in aesthetics as a display of unity within variety. The difficulty about this formula is that it seems too wide, for it includes the properties of many objects outside the range of aesthetic experience. Of course we should not forget that our normal vision is constantly failing to notice the aesthetic aspect of our surroundings. When we substitute a prolonged gaze for a superficial glance the shape or form of many ordinary things assume a novel significance. Indeed, the modern artist is often concerned with lifting the veil from beauty as a by-product of our industrial civilization. It is equally true that much we see or hear leaves a blurred or confused impression, which offers no satisfaction to our appetite for formal regularity. Even so, it can hardly be denied that there is a measure of similarity in everything we perceive. What really distinguishes an aesthetic object from other things is that its unity is more highly organized, that, however complex it may be, there are more points of similarity between its parts than in the visible or audible structure of the ordinary products of man or nature. A more accurate and specific description than unity within variety is provided by the expression "organic unity." This implies that the unity of a poem or a sonata is so closely knit that you cannot add or subtract a word from the former, or a bar from the latter, without spoiling the whole work to which they belong. If this expression is not used to suggest a difference in kind between the structure of a work of art and that of other physical objects, or a mystical affinity between art and living organisms, it is a useful way of describing the formal properties of aesthetic phenomena. There is no doubt that formal patterns are found throughout art and nature. It has been shown experimentally that people get aesthetic pleasure from extremely simple objects, a patch of pure colour, a simple geometrical figure like a circle or a rectangle, a rhythm tapped out with a pencil by a child. Thus form extends from simple objects with an elementary appeal to the most complicated,

difficult, and highly organized works of fine art. But in art, even in its unrepresentative branches, form encounters a rival in the emotions and desires which the artist has expressed in his finished work. The relative importance of form and expressive content in art depends partly on the artist himself, partly on the school to which he belongs, and partly on the medium which he fashions. Some artists and some schools of art prefer formal harmony to emotional expressiveness, some arts lend themselves more easily to the arrangement of patterns than to the communication of states of mind. In poetry, the meaning of words is more important than metre, rhyme, alliteration and other formal devices. In painting and sculpture the portrayal of a subject is also easier than abstract design. Architecture and the applied arts are better adapted to purely formal treatment. In music alone form and expressive content are equally matched. This is one reason why music at its best is superior to the other arts. But in each case it is the emphasis that matters, and the one quality need never exclude the other. How essential it is to strike the perfect balance can be seen when too much stress is laid upon one or the other of these twin ingredients. Let me give you a familiar example. In reaction against the Impressionist school of painting, which tended to neglect composition, post-Impressionists started the cult of form. This led to Cubism, and other varieties of abstract art, from which painters are now trying to find their way back to the painting of life. For it is generally recognized that the greatest exponents of the art of painting have combined design with insight into the subtleties of personality and the drama of social and personal relations. The only field in which form often predominates to the point of ousting content is in the minor arts. The shape of a vase, the arabesque on a carpet, the pattern on a wallpaper, can be complete in themselves after colour and imagined movement have been subtracted. It does not, of course, follow that useful things cannot also be endowed with life. It often happens that a still life, or the inanimate objects in a room, acquire a personality of their own. But this does not lessen the charm of a functional arrangement of lines and shapes unblemished by fussy detail or unnecessary ornament.

Although in this way form as organic unity pervades art and nature, it lacks the wider and more moving appeal of expressive content. For content reveals a different and more intimate level of human experience, the level of will and feeling and emotion. We pass from the stage of immediate perception, at which form and sensuous qualities are the chief source of our aesthetic satisfaction, to another stage at which relevant fragments from our past experience are added. Thus it is that the emotional and conative background of our minds gives the object character as well as qualities directly perceived. Indeed, it is the function of the artist to crystallize in his

products the whole range of human desires, feelings, and emotions, from the animal passions of anger, hatred and revenge, to the most subtle moral, mystical, or religious sentiments. We realize, of course, that this irrational sub-stratum of consciousness is only the raw material of the artistic imagination. Such material is in itself neither art nor the experience it gives, it is strictly neutral.

From Hume to the present day the predominant view among writers on aesthetics has been that feeling is the core of the aesthetic experience. Their main perplexity has always been to identify the particular kind of feeling we have in this type of experience, and to distinguish it from the many other feelings which occur in the course of our daily lives. What is going on in our minds, they have asked, when we claim to see the calm in a sunset or the despair in a gesture, when we say we hear the fury of the storm or the joy or melancholy or tenderness of an allegro or an adagio? Many writers have noted the curious manner in which, at such moments, there seems to be a sort of chemical synthesis between subject and object. You will remember that Bosanquet described the aesthetic attitude as pleasure in a "feeling embodied in a perceived appearance," while Alexander talked of a sensitive onlooker "imputing" his mind to the scene before him. Both philosophers appear to agree that the peculiarity of an aesthetic reaction is that we add mental qualities to the physical and sensuous qualities of the objects we perceive. This view is shared by the *Einfühlung* school in Germany, and by the psychological writers who followed them. The originality of this school of thought lies in their attempt to explain, by meticulous and detailed analysis, how external objects come to be invested with mental qualities they do not in themselves possess. They maintain that in aesthetic experience we become aware of objective feelings, "gegenständliche Gefühle," which we automatically regard as belonging to the perceived object and not to ourselves; we see feeling in a gesture, we hear it in a sound. What distinguishes these objective feelings from the real emotions and desires of ordinary life is that they seem to occur in the object, and to be one of its own attributes, instead of taking place within us and belonging to our own personality. It is, I think, true that we are not conscious of these objective feelings except as qualities of the object we see or hear or imagine. For this projection of our own state of mind, whether emotional or conative, into the object before us, does not involve a simultaneous awareness of the state of mind in ourselves and of its expression in the object. It seems in fact to be the case that we are not conscious, at the moment of our aesthetic experience, that these objective feelings originated in our own minds. We note in retrospect how we were unconscious at the time that the object had assumed its emotional or conative colour by an act of self-projection. We are therefore

not directly aware of the mechanism of aesthetic empathy. We infer it from our observation of emotional expressiveness in material objects devoid of life or mind. It is, after all, only indirectly that we get to know about unconscious mental processes, including memory.

At this point we can draw a dividing line between the mental mechanism of projection, and the mental content projected from our minds. The projective mechanism operates in the same way, whatever the experience may be, but what we project depends on each particular situation, and varies in accordance with the structure of the object which confronts us. There is often in such situations, as I have already pointed out, an *Einempfindung*, a projection of sensation, as well as an *Einfühlung*, a projection of feeling. I have described how sensations which adhere in this way to external objects are in the main imaginative simulacra, which share the distinctive characteristics of objective feelings. It may be urged against this view that there is nothing peculiarly aesthetic about this sub-conscious transfer of sensations or feelings to objects, for such transference occurs quite frequently in ordinary perception. We detect emotion in the sound of a voice, or the glance of an eye. We see the wetness of the pavement, or feel the warmth of the fire. Indeed, it has been admitted by the theorists of *Einfühlung* that empathy does take place in many ordinary and aesthetically neutral situations. But what distinguishes aesthetic empathy from what happens generally in fused perception is the uninhibited flow of our sympathetic feelings, which is due to the absence of the usual psychological restraints. Aesthetic empathy is more vivid and complete than ordinary empathy because our imaginative sympathy is not obstructed by personal interests or by the swarm of associations which recognition usually ushers into our field of consciousness. It follows, of course, that aesthetic experience is different in degree and not in quality from the experiences of everyday life, and that we do not employ any special sense of beauty or intuitive faculty when we respond to art or nature. Indeed, mythological and other primitive beliefs show how deeply the anthropomorphic tendency is rooted in human nature. Of course, it would be a mistake to confuse the feelings peculiar to aesthetic experience either with their origin in this animistic tendency, or with other feelings that they resemble. The French and German writers who have closely studied this subject agree that they are a kind of sympathetic feeling—what the French have called "symbolical sympathy," the Germans "aesthetic sympathy or *Einfühlung*"—and that it is the vividness of this imaginative sympathy, together with the fusion of its content with the object, which distinguish it from other forms of sympathy and from our whole subjective sensibility. It follows from the sympathetic character of aesthetic feelings that they differ in the same way as

sympathy in general from subjective emotion, impulse, and desire. As they are a revival in imagination of the qualitative colour of real emotional or conative states, they lack the overwhelming intensity of the natural impulse or emotive shock. They therefore last for a shorter time, and are more easily subject to voluntary control. This enables us to brush quickly aside the sympathetic pain we have experienced in witnessing a tragedy or reading a pathetic story, to pass rapidly from one mood to another in listening to music, and to submit to a number of different and sometimes antagonistic states of feeling provoked by the characters and incidents in a novel or a play.

It has been said that this elusive feeling is a special kind of pleasure. But although aesthetic experience is usually pleasant, the feeling of pleasure is no more an integral part of the experience than the judgment of taste which follows it. For a sense of enjoyment is felt in ourselves, it is not attributed to an object outside us. It is in fact a subjective effect of the various factors—sensuous, formal, or empathic—which the object exhibits to our contemplation. Genuine aesthetic pleasure is a pleasure deriving from these factors, and from nothing else. It is the peculiarity of its origin that distinguishes it both from the pleasures of the senses and from other mental pleasures. Much of the delight given people by art has, of course, nothing to do with genuine aesthetic experience. It often stems from personal associations, or from interest in the subject of the artist's work, or its technical treatment. A further objection to aesthetic hedonism is that our experience of art can be painful as well as agreeable. A tragedy hurts more than it pleases, and so do the mordant sature and grim realism of many modern writers. But although pleasure falls just outside the boundaries of the aesthetic experience itself, it usually accompanies its successive stages and suffuses the whole with a glow of agreeable feeling.

The foregoing psychological analysis would give an incomplete account of the experience of beauty if I were to omit any reference to the structure of physical objects which provokes our subjective reaction and determines what it shall be. The very fact that some objects stimulate our sensibility, while others leave us unmoved, suggests that certain things possess an aesthetic virtue which others lack. We have noted the direct appeal of sensuous qualities such as light and colour and sound; but more important, and equally ubiquitous, are the qualities of emotional or conative expressiveness and organic form. The latter we have already pointed out in the spatial or temporal patterns traced by the fine and applied arts. The former is a suggestiveness of vitality and emotion through sounds, movements, and shapes, which either are in themselves, or at least resemble, the gestures and utterances we are accustomed to associate with the bodily expression of our inner life. Whatever else a

product of art or nature may express or suggest, such as ideas connected with a subject sculpted, painted, or described in words, is irrelevant from the strictly aesthetic point of view. The irrelevance of cognitive meaning enables us to appreciate primitive art while discounting the magical or spiritual significance it had for its contemporaries, and to enjoy the religious art of every historical period and culture without sharing the creed of the artist or the ideology of the society in which he lived. Expressiveness, in this sense, and organic unity are thus the generic characteristics of aesthetic objects, and the particular form or expressive features of each work of art decide in practice what sort of experience—tragic or comic, graceful or grotesque, classical or romantic, abstract or naturalistic—we are entitled to expect.

These two equally desirable aspects of aesthetic experience explain why beauty is not a tertiary quality of material objects, a quality as objective and measurable as their size, colour, or shape. And, at the same time, why it would be no less fallacious to maintain that beauty is purely subjective, residing in a special kind of feeling or its expression. For we have seen that aesthetic experience has two complementary aspects, subjective and objective, and that it consists of a fusion between these two components. Beauty is aesthetic experience, and this experience is itself a unique relationship between subject and object. I would not dissent at all from what Alexander once said in a posthumous lecture on values, "The value of beauty is thus eminently a relationship, as between the beautiful object and the mind which creates or appreciates; . . . how essential beauty is relative is seen from the constitution of the beautiful object itself, part given, part added by the mind. . . ." This relationship can perhaps best be described as a disinterested satisfaction, creative or appreciative, in the sensuous qualities, the form, and/or the expressive content of individual objects.

The outcome of this analysis fully justifies the common-sense opinion of artists and laymen, which has been called in question, that their aesthetic experience is different from the rest of their experiences of life. For it has shown that in the experience of beauty we established a relation between the mind and its object which always occurs in this type of human experience, and which differs *toto cælo* from our awareness of any other relationship.

THE ONTOLOGICAL ARGUMENT OF ST. ANSELM

S. A. GRAVE, M.A.

THE first aim of this paper is to try and determine what St. Anselm meant in his original argument in the *Proslogion* (ch. 2). This needs to be done because not only are the writers who expound his demonstration divided in their interpretations of it, and these interpretations quite different, but, very strangely, one does not find that they mention that there is any ambiguity and that other writers construe Anselm's words differently from themselves. Since there are in fact two arguments in the classical formulation of his proof, I want to try and disentangle them, decide which of them Anselm intended and what is its connection with the demonstration in the third chapter of the *Proslogion*, and thus to offer an opinion on what exactly the ontological argument of St. Anselm is. Then on the basis of the clarification, I hope to show what it was that Gaunilo and St. Thomas attacked, to touch briefly on the relation of the 17th century ontological argument to Anselm's, and in general to indicate the curious round-aboutness of the historical criticism of Anselm. Anselm argued and Gaunilo and Thomas refuted something, though not, I think, precisely what Anselm meant, or, at any rate, not all that he meant. Actually it was Descartes that Thomas refuted by refuting half of Anselm. Kant refuted the other half of Anselm in an irrelevant criticism of Descartes. So that it could properly be said that Anselm's proof has been broken by philosophers who were either only partly aware of what he was maintaining, or who never had him in mind at all. Finally, because the important thing about the ontological argument, in my opinion, is not whether it is a demonstration of God's existence, but whether its refutation is a demonstration of the impossibility of God's existence, and because this question seems to arise most sharply in connexion with Anselm's position, I want to say something about that.

I am afraid there may be a number of mistakes in this paper, but that won't matter so much if it does something to damage an unfortunate assumption that all that can be said about the ontological argument has already been said too often, and that the historical and philosophical problems connected with it have for some time been neatly solved.

A complete discussion of Anselm's argument would have to examine the a *priori* logical validity of his concept of God as that of "a being than which none greater can be conceived." A casual doubt about it seems to have crossed his own mind, for several times he

remarks inadequately that it must be significant because we understand it. I am leaving this question alone, as Anselm practically left it alone, to concentrate on the inference from the idea of God to His actual existence. Even so, one point about the idea must be settled and that is whether, in spite of appearances, the maximum cogitabile is Anselm's operative idea of God at all. In Chapter XV of the *Proslogion* he speaks of God as a being "too great to be conceived"—ergo domine, non solum es quo maius cogitari nequit, sed es quiddam maius quam cogitari possit.[1] If he meant this without qualification he would have no argument left, for all his reasoning depends, of course, on our having an idea of God valid as far as it goes. But it is hard to believe that there really is this great anomaly in Anselm's natural theology which some critics imagine they have detected. In view of his Catholic orthodoxy with however Neo-Platonic a slant, Anselm cannot have meant by his dramatic statement that we have no valid idea of God, but only that we have no idea which exhausts the mystery of God. He only meant what Thomas says more soberly when he remarks that whatever name we apply to God, God exceeds its signification.[2]

The opinion I have just been objecting to would make it impossible to consider Anselm's argument from the idea to the existence of God, on the ground that Anselm provides no idea to argue from. M. Gilson, if I understand him, would make it impossible because he seems to think that Anselm provides no *argument* from the idea. He says that to treat the proof as if it claimed to be an analytic inference is to examine only the "dead skin" of an interior illumination.[3] And he may be right; the argument may be only an instance of the Anselmian "credo ut intelligam." But then, if that is all, the "Fool" is not being argued with, and Anselm did intend to argue with him, and to maintain that he contradicted himself when he denied that God exists.

Anselm begins the proof by remarking that the "Fool" can't deny the existence of God without having the idea of God in his mind, an idea which, when it is fully thought out, is the concept of a being than which none greater can be conceived. This being exists then in the intellect, that is, conceptually, as a notion. The fool is thinking of a being than which none greater can be conceived. "And clearly that than which a greater cannot be conceived, cannot be only in the understanding. For indeed, if it is only in the understanding it can be conceived to exist in reality also—which is greater. If, therefore, that than which a greater cannot be conceived is in the understanding

[1] *Proslogion. S. Anselmi Opera Omnia*, edit. Schmitt, Vol. I, p. 112.

[2] *Summa Theologica*, I Q., 13, A. 5.

[3] *Études sur le Role de la Pensée Médiévale dans la Formation du Système Cartésien*. p. 218.

only, the very being than which a greater cannot be conceived is a being a greater than which can be conceived. But clearly this is impossible. There exists, therefore, beyond doubt, both in the understanding and in reality, a being than which a greater cannot be conceived."[1]

Anselm's exposition is ambiguous; probably through an accident of language there are two arguments in it. The ambiguity is in the sentence: "It can be conceived to exist in reality also, *which is greater.*" This can mean: (*a*) An actual thing is a greater *thing* than the concept of it, (*b*) An actual thing is a greater *conceivable* than a non-actual thing, i.e. the content of the conception is greater when the object it refers to is actual, than when it is not.

The first argument then is:

(*a*) Since actual existence is greater than mental existence, if the greatest conceivable is not actual, it is not the greatest *thing*.

(*b*) Since actual existence is greater than mental existence, if the greatest conceivable is not actual, it is not the greatest *conceivable*.

Gaunilo's re-statement of the proof makes it clear that he thought (*a*) was Anselm's reasoning.—"It is greater to be in reality also, than to be in the intellect alone, and if this being is only in the intellect, whatever has existed, even in the past, will be greater than it, and so the being that is greater than all will be less than some other things and will not be greater than all."[2]

It is, however, fairly certain that this is not what Anselm intended, at any rate after Gaunilo's criticisms. Gaunilo has substituted for the original formula the phrase "greater than all." Anselm objected that the substitution changes his argument.[3] It does not materially change the first; in fact it sharpens the contradiction alleged to be involved in its denial. The second on the other hand cannot even be stated with the altered phrase; it just turns into the first argument. The first is also its own refutation.—If the greatest conceivable does not exist it is not the greatest thing. The obvious reply is, "No it isn't",—which is roughly how Gaunilo does reply: It would be a contradiction to admit that what is conceived to be the greatest thing exists and to deny that it exists, but no contradiction to deny simply that it exists,

[1] Et certe id quo maius cogitari nequit, non potest esse in solo intellectu. Si enim vel in solo intellectu est, potest cogitari esse et in re, quod maius est. Si ergo id quo maius cogitari non potest, est in solo intellectu: id ipsum quo maius cogitari non potest, est quo maius cogitari potest. Sed certe hoc esse non potest. Existit ergo procul dubio aliquid quo maius cogitari non valet, et in intellectu et in re: *Proslogion* ch. 2 (Schmitt) Vol. 1, p. 101–102.

[2] Maius illo erit quidquid etiam in re fuerit, ac sic maius omnibus minus erit aliquo et non erit maius omnibus, *Gaunilonis Pro Insipiente* in Schmitt. Vol. 1, p. 125.

[3] *Responsio Editoris* ("*Liber Apologeticus*") Ch. 5. Schmitt, p. 134.

since if it does not exist it is not greater than other things which do.[1] But if you try saying "No, it isn't," to the second argument—if the greatest conceivable does not exist it is not the greatest conceivable—instead of refuting Anselm you agree with him. In any case by repeating several times in the second chapter of the *Liber Apologeticus* the point of his contention, that a non-existent thing is not the greatest conceivable thing, Anselm shows that he meant the second.

The argument in the third chapter of the *Proslogion* is this:

"It is possible to think of a being whose non-existence is inconceivable. Therefore the greatest conceivable is not the greatest conceivable unless its non-existence is inconceivable."[2]

This argument appears to be ambiguous too, though if it is, I think Anselm would accept both its possible meanings.

(*a*) If you are thinking of a being whose non-existence is *inconceivable*, you must be thinking of an actual being. All the reasoning is in the major premiss which the conclusion does little more than restate. But if the minor premiss is relevant, and is not merely the trivial assertion that you are not thinking of God unless you are thinking of a necessarily existent being, then what Anselm seems to be saying is also:

(*b*) An actual necessary existent is a greater *conceivable* than a possible necessary existent. If so he is repeating the point of his first argument.

I should say, then, that the nerve of the ontological argument of St. Anselm is both:

(1) The maximum cogitabile would not be the maximum cogitabile unless it actually existed.

(2) The idea of a being whose non-existence is inconceivable implies the actuality of that being.

These two propositions are the operative principles of the two different arguments of the second and third chapters respectively of the *Proslogion*. The first of these two arguments might be called the distinctively Anselmian, because it is fairly obvious that the ontological argument of the 17th century just rings the changes on the major premiss of the syllogism in the third chapter of the *Proslogion*.

[1] Schmitt, p. 126. It is interesting to find this pseudo-Anselmian argument embedded in Spinoza's proof of God (*Ethics* I, Prop. XI, 3). "If then what necessarily exists is nothing but finite beings, such finite beings are more powerful than a being absolutely infinite", which, Spinoza says, is absurd. On the contrary it is a truism that an actual finite being *is* more powerful than a hypothetical infinite being.

[2] Nam potest cogitari esse aliquid, quod non possit cogitari non esse; quod maius est quam quod non esse cogitari potest. Quare si id quo maius nequit cogitari, potest cogitari non esse: id ipsum quo maius cogitari nequit, non est id quo maius cogitari nequit. *Proslogion.* ch. 3 *op. cit.*, p. 102.

If this generalization is doubtful in the case of Descartes, it is because it is so difficult to decide how he finally interpreted his argument. It applies to the reasoning of the fifth *Meditation* taken at its face value—"It is not in my power to conceive a God without existence, that is a being supremely perfect, and yet devoid of an absolute perfection." But, as is well known, when Caterus reproduced from Thomas the argument of the fifth *Meditation* with its refutation, Descartes protested that it was not his argument and that he quite agreed that the idea of a perfect being implies only the idea of its existence. He said, however, that he was not referring to the mere idea of God, but to the fact that existence necessarily belongs to God's "true and immutable nature."[1] This reply is either the conclusion of the *a posteriori* "cosmological" proof, or, if *aprioistic*, still justifies only a hypothetical proposition, or abandons the ontological argument for something like the ontologism, the direct vision of God, which Descartes repudiated. If the last, Descartes is not arguing but asserting a private intuition with the ontological formula as its rational expression.

If the ontological argument in Spinoza is the ontological argument (and assuming that it is used to prove the existence of God, not that of the universe, the identity of the two being otherwise established) then it is substantially the same as that of the major premiss of Anselm's syllogism in the third chapter of the *Proslogion*. To deny God's existence is to contradict yourself by maintaining that a being whose essence involves existence, does not exist (Ethics I, Props. VII and XI). Joachim, however, may be right in suggesting that all Spinoza's theistic proofs employ the postulate (explicit only in the third of Prop. XI) that if anything exists something must exist of necessity.[2] On this supposition the ontological argument in Spinoza is simply a very awkward clarification of the meaning of "existence by intrinsic necessity". That is, it clarifies the conclusion of the cosmological argument by indicating that an intrinsically necessary being is one whose essence involves existence.

As far as the inference of the ontological argument is concerned, there is no mistaking the prototype of Leibniz's naïve formulae. They read like a burlesque simplification of the third chapter of the *Proslogion*: "Necessary Being exists, or Being whose essence is existence, or self-existent Being exists." God is-by definition.[3]

It is not certain how St. Thomas understood Anselm but his criticism gives no sign that he felt the edge of Anselm's "distinctive" argument. He carefully uncovers the psychological basis of the ontological paralogism, the failure to distinguish between God's

[1] *Reply Obj.* I. [2] *A Study of the Ethics of Spinoza*, pp. 50 ff.
[3] *Animadversiones in partem generalem Phil. Cart.*, Gerhardt's *Leibniz, IV*, p. 359.

absolute essence which does involve existence, and our concept of it which does not. In the *Summa Theologica* (I, Q 2, A 1, Ad 2), like Gaunilo, he regards the proof as only a hypothetical tautology. In the *Summa Contra Gentiles* (I,II) his further criticism, according to its traditional interpretation, is that the concept of being than which none greater can be conceived must include the concept of existence but cannot entail actual existence, because "a thing can only be asserted to exist in the same way as the meaning of the name".[1] In other words real existence is a logical accident to *this* concept, therefore the proposition asserting its actuality is synthetic.

The self-contradiction, then, alleged to lie in the denial of the ontological argument in the form: a being whose non-existence is inconceivable must exist, arises only if you admit that God so conceived exists and deny it, or deny that the concept of God includes the concept of necessary existence. But with Anselm's distinctive argument, even though you include the idea of necessary existence in the idea of the maximum cogitabile the illusion of self-contradiction remains, unless you admit that this being is actual. Unless the being, than which none greater can be conceived, exists, it is not the being than which none greater can be conceived; what is actually existent would be a greater conceivable. You admit that you are thinking of the greatest conceivable being, but if what you are thinking of is not real, it is not the greatest conceivable being you are thinking of.

The precise refutation of this is to show that if the greatest conceivable being exists, it is not a greater conceivable than if it did not exist, not a greater conceivable than the content of the concept which refers to it. It is exactly the objective verification of this concept, so that whether there is an object corresponding to this idea or not, the idea itself cannot vary *quidditatively*.

Kant's objection to the 17th century ontological argument is much the same as that of Thomas to its Anselmian equivalent. It is either a hypothetical tautology or it establishes the existence of a mere *ens rationis*—"the thought, which is in us, is the thing itself".[2] Then he goes on to determine the nature of an existential proposition and in doing so ruins the principle of Anselm's "distinctive" argument. To assert that anything exists is to posit "an object that stands in relation to my concept" (p. 505). (It is to say that a given description applies to something or that something has such and such characteristics.) And the "content" of conception and object are the same. There can be no conceptual difference of a qualitative kind between "X possible" and "X existent" since the real contains no more quidditatively than the possible. For if there was a new quidditative or

[1] Eodem enim modo necesse est poni rem et nominis rationem.

[2] *Critique of Pure Reason* (Kemp Smith) p. 504.

qualitative element in the real one could never say that the exact object of one's conception existed. If the real has a "property" which the possible does not have "my concept would not, in that case, express the whole object, and would not therefore be an adequate concept of it" (p. 505). The concept would always be the concept of something different from what actually exists. The conclusion which Kant draws, apparantly from this reasoning, is that an existential propoitsion must be synthetic in the sense that real existence can never be entailed by a concept.

Now while this conclusion of course outlaws the 17th century ontological argument, the Kantian grounds for it are irrelevant to the structure of that argument but deadly against Anselm's special proof. Kant, in the course of his discussion, seems to suggest that the only way an existential proposition could be analytic is an impossible way. He seems to think that the proposition "X exists" could be analytic *only* if there could be a conceptual difference of such a kind between "X existent" and "X possible" that you could say the conception of "X possible" is not the conception of "X". That is Anselm's principle (the greatest conceivable is not the greatest conceivable unless it is actual) and Anselm's argument completes itself thus: "And I do conceive the greatest conceivable; therefore the greatest conceivable exists". The consequence of this principle is either that every existential proposition known to be true is analytic (because real existence is known to be one of the "properties" of the subject) in which case Anselm's proof simply begs the question, or that the actual as such is inconceivable. The second consequent of Anselm's supposition that the conception varies with the existence or non-existence of its object is then that real knowledge, including the knowledge of God, would be impossible. The actual greatest conceivable would become inconceivable, its reality an unthinkable surd. Anselm's original argument would be suicidal and the self-contradiction not in denying it but in asserting it.

(It might be noticed by the way, that it is perhaps through his subversive principle that Anselm slips into contradiction in his exposition of a variant argument in the first chapter of the *Liber Apologeticus*:

"That than which a greater cannot be conceived cannot be conceived except as without a beginning. But whatever can be conceived to exist, and does not exist, can be conceived as having a beginning. Therefore that than which a greater cannot be conceived cannot be possible and not actual."[1]

[1] Nam quo maius cogitari nequit non potest cogitari esse nisi sine initio. Quidquid autem potest cogitari esse et non est, per initium potest cogitari esse. Non ergo quo maius cogitari nequit cogitari potest esse et non est. Schmitt, Vol. 1, p. 131.

The minor premiss is self-contradictory. If it is the great conceivable being that is thought of, it is contradictory to conceive it as having a beginning, whether or not there is an object corresponding to the conception.)

The important thing about the Kantian discussion of the possibility of inference from concept to existence is not whether it refutes Anselm or Descartes but whether it refutes God. For if there is a God (I mean in the Christian sense of the word) there is a being whose essence—expressible by a "concept"—involves existence. It there is a God there is at least one analytic existential proposition.[1] Now Kant at the beginning of his criticism of the ontological argument while objecting that the possibility of an intrinsically necessary being has been arbitrarily assumed, seems to suggest not that it is impossible for a concept to entail existence, but merely that we do not know any that do. He says that while it is a contradiction to retain the subject "God" and deny the predicate "exists", it is no contradiction to annihilate both subject and predicate in thought. And he points out that to reply that there are "absolutely necessary subjects" (p. 503) is to beg the question. But he doesn't seem here to deny that there *may* be such a subject. He doesn't seem to be maintaining here that there is an ontological demonstration of God's non-existence from the absurdity of the description—a being whose essence involves existence—to the impossibility of its applying to anything. When, however, he comes to discuss the meaning of "exists", by denying absolutely the possibility of an analytic existential proposition, he denies absolutely by implication the possibility of the existence of God. Why does Kant think that there can be no propositions of this sort? Apparently because he can show that existence is not a qualitative predicate. But "X exists" would be analytic and existence would *not* be a qualitative predicate, if the concept of X implied the impossibility of "X merely possible". It would not then be necessary to go beyond the content of the conception to predicate the existence of its object.

Professor Ryle says of the ontological argument in general something which I think is true only of Anselm's special version of it. He says that the ontological argument holds that "it is part of the *analysis* of 'perfectness' that something is perfect. Part of the meaning of this one definite description is that the description fits some-

[1] It has been suggested to me that it would be better to say noncomittally "If there is a God, then there is at least one *necessary* existential proposition, viz: 'There is something which has the essence E', where E is the essence or nature of God". I have preferred to use the phrase in the text because the Christian doctrine of the existence of God with the logic of which I am concerned is that absolutely (though not to us) the denial of God's existence is self-contradictory and consequently the assertion of it is absolutely (though not by us) an analytic proposition.

thing".[1] I think Anselm's special argument does commit just this type-fallacy of treating a description as if it was a demonstrative symbol; that is does argue that part of the connotation of *deitas* is its denotation. I don't think, however, that the "Cartesian" form of the ontological argument does this. I should say that the Cartesian reasoning is not that it is part of the analysis of perfection that something as a matter of fact is perfect—if per impossibile, as it holds, no object corresponded to this concept it would not regard the concept as changed—but that something *must* be perfect, that the notion of perfection entails this consequent. The argument is not that the denotation is part of the connotation of "perfection" but that the connotation of this term requires its denotation. And this seems to me to be quite a different claim.

The Cartesian argument is wrong in thinking that the connotation of "perfect being" requires its denotation. But what is important is that this kind of argument could be valid and that it is a defect of content not of form that makes the Cartesian argument invalid and that something like it, if I am not mistaken, must be the logical structure of the inference from God's essence to His existence, if He exists. Though "perfection" does not imply that something has to be perfect this does not prove that God either does not or cannot exist. (It does not even prove that we cannot know demonstratively that there is a being whose essence involves existence. For if the "cosmological argument from the contingency of the world to God as its First Cause is valid, then we can know the truth of the proposition, "that 'God exists' is self-evident," though we cannot know the self-evidence.) If God exists perfection is only part of the analysis of *deitas* and another element in it is the entailing characteristic necessitating that the properties of deity belong to something. And so the existential inference which a fragment of the meaning would not justify the whole meaning would justify. And since this is not impossible the term "God" is not meaningless.

In the language of St Thomas,[2] God's existence could be inferred from His essence "absolutely", i.e., as it is known to Him, though not from His essence "relatively", i.e., as it is known to us. In other words, the ontological argument is valid for God but not for us, because God knows what He is and we do not. There is something missing in the relative concept which is not missing in the absolute concept. It is the rationale of the unthinkableness of God's non-existence, the astonishing quiddity which implies that God merely possible, is impossible—et hoc es tu, domine deus noster.[3]

The University of Western Australia.

[1] *Mind*, April 1935, p. 144.
[2] *Summa Theologica* I, Q 2, A I; Contra Gentiles I, 11.
[3] *Proslogion*. Ch. 3.

PSYCHIATRIC PROLEGOMENA: A PLEA FOR THE HELP OF PHILOSOPHY

HAROLD PALMER, M.D.

PART II

In the first part of this article I dealt at length (*a*) with the subject-matter of Psychiatry and (*b*) with the primary entities of Psychiatric Discourse. This part will discuss the secondary entities of Psychiatric Discourse, and the clinical entities of Psychiatry.

(*c*) THE SECONDARY ENTITIES OF PSYCHIATRIC DISCOURSE

1. Personality

Personality may be defined as "that aspect of human beings whereby we are recognized by others," that is, "that which constitutes recognizability." The term therefore implies a subject-object field in which the object is another person or persons. There exist as many criteria of personality assessment as there are significant viewpoints of human beings, but there seems little doubt that the human voice is that which impresses us most about our fellows, closely followed by facial expression. Both these convey that whereby we assess "purpose" which is a most important matter about which we habitually assess others.

Not only do we assess the conative quality of purpose, however, but also intelligence and temperament. Both these latter qualities are elusive of definition, especially intelligence. If we define human intelligence as the ability to adapt means to ends which automatically implies the ability to learn and to think abstractly, and if we define temperament as the quality of his prevailing mood together with his customary speed and strength of emotional response, we shall probably be aligned with current acceptable definitions (Cattell: Allport).

It is clear, however, that "personality" is most distinct in relation to that group to which we give allegiance and in which we move; and it is equally clear that a man may exhibit different facets of a hypothetical "total" personality in relation to different human beings or different human groups within the containing society. This is, of course, a familiarly recognized fact, so that a man will exhibit a different domestic personality from the one which he assumes in business. He may acknowledge multiple and even incompatible allegiance.

It should be noted that in the course of history patterns of per-

sonality received differing social sanction in different cultures, and there is a subtle link established between the concept of personality and the concept of character, especially in well-defined cultural groupings. The Ancient Greek and the Ancient Roman had different personality ideals, and the nineteenth-century English gentleman was a different person from his Elizabethan ancestors. The one feature which has apparently characterized all cultures is the high value placed on valour in battle, this being the acid test of purpose and fundamental moral courage.

2. Character

Out of these considerations arise the need for a term which will express the total impression gained from the complexities of personality assessment, and especially a measure of social value. Now, in view of the fact that we are handling relation, the question arises "To what shall we relate such a total ingredient personality complex?" so as to form a basis for judgment. The most readily available object for such a relation of value is the social mores. Therefore a man's character may be defined as "the estimate of social value of personality in relation to a hypothetically accredited representative of the social group to which he belongs." A judgment of character connotes assessment of the "self-control," and especially the capacity for sustained purpose in adversity, that is to say, resolve. These qualities imply a measure of the autonomy of integration of personality which, if organized and directed to socially approved and desirable ends, is prefixed by the adjective "good" or, if the reverse, by the adjective "bad" or it may be "weak." Therefore we recognize action as the test of character judgments. Moreover, it is in action alone that we can solve the difficulty of deciding as between the individual's self-estimate and the variable social estimates of his character. Failure of achievement is that which precipitates nervous breakdown.

The psychiatrist is very much concerned with personality, but is much more particularly concerned with character, for it is deficiencies in the latter which bring so many of his patients to him. The greatest factory of neurosis is warfare, and we have seen how warfare is the great test of character. Integrity in business and financial transactions, loyalty to kinsmen and friends, self-respect and capacity for self-discipline may be cited as fairly universally accepted standards of character assessment in modern European culture.

3. Morale

We may say that morale depends on the capacity and willingness of the individual to accept discipline; the comradeship which he is

offered or develops within the group; his terms of reference as a contributory member of the group. The morale of the individual reflects and is influenced by the morale and effectiveness of the group to which he belongs, and this may be assessed by the quality of its leaders. Morale is but a new word for resolve or that which our forebears would have recognized as strength and fixity of purpose, harnessed in the service of an ideal. For a man's soul is the sum-total of his purposes, and the great ideal is service to others.

4. The Group

The psychiatrist, therefore, as long as he is interested in the morale of his patient, must concern himself with the group to which his patient has given domestic, social, economic, political and spiritual allegiance, as well as to the containing society of the group. For neurosis in large measure follows as a consequence of his withdrawal from society through failure to achieve full contributory membership. In many cases this is predisposed by constitutional neuroticism, in other cases by faulty training, and in others by traumatic experience in childhood. These considerations justify, if indeed they do not compel us to adopt, the "total" method of approach to the study of our patients. And although we may detect present stress as the determining factor of the breakdown (viewed from the standpoint of physiological epoch, emotional or economic security, or pathological "mechanism" within the organism), we always require to study our patient in terms of the "forward going" or teleological dimension of purpose; and this is especially connected with "morale."

Most psychiatrists have received a training as physicians by a methodology which is traditionally bound up with the notion of specific causation for disease. Therefore it is characteristic to find that most psychiatrists will be found to lean towards one or other aspect of causation. Perhaps the general fault in psychoanalysis is its implied doctrine of specific causation and in the practical test of military psychiatry its followers by and large were hopelessly out of their depth in attempting to deal with a problem for which such notions were totally inadequate.

Returning now to the question of morale in relation to group dynamics we note that all cultures have realized the necessity of this factor and developed rules for living which embody their tribal and racial and later their national traditions, so that the birth of peoples is the history also of what religion they possessed. It is surely a most curious fact that modern psychiatry has had little to say on this all-important topic.

The soldier recognizes the value of a training which engenders comradeship, discipline, self-respect and loyalty, and under the

supreme test that human beings can undergo, bravery. To translate these views into everyday terms is not easy, simply because the civilian group is less organized about any particular goal. Some have seen in the family the institution around which civil loyalties should be fostered; others have seen the economic group as the ideal unit, and to this philosophy the term "collectivism" refers.

5. The Containing Society

The term "group" except it refer to the family is admittedly a term which refers to a somewhat vague entity. Only in warfare or with special reference to such partial studies as industrial hygiene does the term possess clinical significance. Nevertheless, it is a useful and necessary term, and leads us on to the term "society." The latter term cannot be given precise limits. For we all inhabit a variety of societies of which the nation is historically a relatively modern entity. Perhaps a working definition would consist in saying that a society is a grouping of men and women about certain agreed objectives, values, or common interests. Such social entities influence our clinical problems so that a melancholy Scotsman is a far different problem from a melancholy Latin. Indeed, there are some who would deny the possibility, in the former instance, of determining at what point pathology is in question.

Moreover, if it be permissible to speak of social organisms we require to define our morphological unit. Such a problem lies outside the province of psychiatry, however. That in practice societies can become sick and that such sickness presents problems of aetiology, symptomatology and pathology quite different from population problems is certain as can be seen when we reflect on the history of the North American Indian, or the rise and fall of nations. Within such units the practising psychiatrist requires to evaluate the general ecological factors over and above such partial factors as, for instance, the industrial or family environment. The question of morale is involved in social studies, seeing that it is the social unit where political life determines leadership. And, from the point of view of its impact on the health of individuals, it is important to realize that social health, which has nothing whatsoever to do with goods and services, can be at a high level in the presence of a low level of economic wealth and vice versa. In these matters we are coming very near to determining purpose in relation to society. For if human individuals have become healthy through a contribution to their group, and groups become healthy by the production of socially desirable goods, we have yet to inquire what purpose societies serve. The history of societies or "cultures" certainly conveys the impression that their characteristic, that is to say their common mark, has

been in the field of aesthetics, and in that realm for which the term "spiritual" may be used, provided by so doing we do not limit the use of the term to any particular cult.

Summary of Secondary Entities of Psychiatric Discourse

The primary entities of psychiatric discourse chiefly concern mechanism, but also to some extent concern individuation. The secondary entities, on the other hand, project one more into the environmental field and give emphasis to the teleological aspect of human beings in their social setting. These secondary entities comprise such topics as personality, character, morale, and we are now in the position very briefly of referring to the specific clinical entities of psychiatric discourse. That is to say, we can now pass from the consideration of John Smith as an ordinary human being to the study of him as a sick person.

When so doing, however, it is important always to bear in mind that sick individuals are not only amenable to study as selves, but also as being related in terms of the emotional efficacy of their status and contractual responsibilities to society. These relations project the study of people on to that of institutions, the state and the great society.

(*d*) THE CLINICAL ENTITIES OF PSYCHIATRY

The study of sick individuals has revealed a group of disorders for which no physical basis is demonstrable, and whose symptoms cannot be discussed except we employ terms which refer to the mental aspect of the self. These comprise the functional mental disorders. Their study lies within the province of psychiatry. The psychiatrist also has to study two other groups of illnesses, but shares these studies as a joint territory with the general physician. In one there is bodily disease influencing mind through disordered cerebral function (the "organic reaction" syndromes). In the other there is bodily disease arising apparently as a result of primary disorder of mind (the "psychosomatic" syndromes).

There is yet another aspect of psychiatry which is shared with all who are concerned with social hygiene, and within this territory are to be found the congenitally mental defective and certain individuals who are seen to be perpetually awry and who comprise the "psychopathic personalities." Members of this last group are especially prone to mental disorder, and when this occurs its classification commonly presents unusual difficulties of demarcation between that which reflects their constitutional psychopathy and that which constitutes illness.

Mental illness resulting from a primary disorder of mind can be subdivided into two groups: the psychoses and the neuroses. The history of these two terms is that of the necessity of effecting a distinction between those patients who require care, supervision and control for their own or other's safety and those who require little or no such supervision. To the former the old colloquial term "lunatic" refers, and to the latter the colloquial expression "sufferer from nerves."

Where in general (in the presence of mental disorder), the self is sufficiently intact to maintain recognition, we tend to use the term neurosis. Where the self is disorganized to the point at which the patient's friends would say "he is not himself any more" we tend to speak of a psychosis. Only a "more or less" criterion can be employed when we affix these labels. Good instances of the difficulties of classification lie in states of depression, for who can draw a line in that series of clinical entities which begins with the normal feeling of being distrait and ends with the blackest melancholy, except the one bred of our decision to safeguard the patient's life on account of suicidal risk. Nevertheless, although we cannot draw such a line, we readily apprehend the disintegration of self in "psychotic depression" and its relative integrity in "neurotic depression."

Biologically speaking, a mental breakdown is the inability of John Smith to cope with his problems. It is either a failure of response or faulty response combined with resultants. The mechanism involved in the breakdown is John Smith's "self." Cause is to be understood in terms of constitutional endowment, mental development, environmental stress or faulty goals. The field force concept provides yet another context within which we can study the causal relationships of breakdown, especially where social factors appear of significance. Stress is to be understood both in terms of internal structure of the self and in terms of environment.

It seems doubtful if the notion of dynamic mechanism is possible without the concept of a regulator or governor, and this concept, in all that has to do with the self, has come to be signified by the term "ego." John Smith's self viewed as a dynamic mechanism has to integrate the demands of his natural impulses (his natural self), the demands of his "ego," and the demands of his environment. In relation to the social aspects of environment, the psychoanalysts have brought forward cogent reasons for employing yet another term—the "superego."

The following are the working hypotheses upon which I base my treatment of patients: A person is born with an inherited, genetically determined endowment which determines his bodily and mental development. The genetic basis of mental disorder has to do with more than one genetic factor which are capable of producing

dissimilar effects. These effects overlap in their production of predispositions to more than one type of illness (Slater). This predisposition is recognized in respect of neurosis when we say that a person is "neurotic" and in respect of psychosis (but less clearly) when we say that they are "odd" or "queer" folk. A study of "neuroticism" (Eysenck) reveals that this term expresses at one and the same time not only a tendency to neurosis but also the possession of certain specific personality traits. These traits comprise a bipolar dichotomy; that which concerns a tendency to react to stress by tension (anxiety) and that which concerns a tendency to react to stress by dissociation (hysteria). The oddities which predispose to psychosis probably refer to more fundamental traits which underlie personality, and concern basic mood rhythm (manic and depressive psychoses) and the integration of affect with cognition (schizophrenia). Viewed ontogenetically it may be that mental disorder is related to a failure of rostral centres to achieve that degree of autonomy and regulative control upon which the integration of the self is dependent.

A person achieves adult life, therefore, equipped with a capacity for the performance of his natural and particular tasks, which is in part dependent on his inherited constitutional endowment. During the course of his development his own particular pattern of mental structure is influenced by his particular pattern of experience. It is useful to think of experience in such a context in cross-section at any point of time, in longitudinal section in terms of life story, and also in relation to the forward going dimension of purpose.

Response to stress is a resultant influenced not only by quantitative factors but also by qualitative factors. These qualitative factors concern the symbolic affinities which relate environment to mind. That is to say, we can only understand response by learning the particular meaning which an event possesses for an individual mind at the time of the experience. Moreover, we must distinguish chronological from biological time if we are to assess the importance of infantile experience when compared with adult experience.

One response to stress is conscious evasion. This may bring the patient into conflict with his social environment, especially where moral problems are involved. It frequently complicates the clinical problem indirectly. Evasion may eventuate, however, by the coming into play of subconscious mechanisms, and when this occurs we are dealing with hysteria. If the stress situation engenders tension we are dealing with a tension syndrome. Both tension and hysteria may be involved in a given instance.

We are, however, likely to encounter symptoms or behaviour which express the reactivation of affective thematism originally laid down in childhood in response to experience, some of which will have been traumatic in quality. These affective patterns will have been

associated with patterns of responses of a defensive nature, and if these are successfully re-employed no breakdown may take place.

The foregoing account of mental disorders is consistent with the psychoanalytical theories of causation, and applies especially to such disorders as hysteria, anxiety, or a combination of the two, that is to say, the neuroses.

In the case of the psychoses these psychodynamic explanations are less convincing. For although similar processes are no doubt to some extent involved, one feels that other processes are involved of a more fundamental nature than those understandable in terms of experience. For instance, the manic-depressive group of illnesses appear to involve mechanisms which have to do with the maintenance of mood, and the schizophrenias have to do with processes which bring affect into relation with cognition. As a consequence, we find that the psychoses are more amenable to physical than to psychological methods of approach.

Classification

If we collect together all instances of mental disorder we shall find that they fall into one or other of the following groups:

1. *Organic syndromes.*—Disorder is caused by bodily disease. These are mediated through demonstrable cerebral pathology.

2. *Psychopathic personalities.*—These comprise individuals who seem to be more or less permanently awry. In these states one has the feeling that faulty integration of the self is dependent on definite cerebral pathophysiology, and that the psychological aspect is secondary. The cerebral dysrhythmias are instances in which such an assumption is valid and demonstrable.

3. *The Neuroses.*—These are acquired disorders of mind in which the mechanism of self is preserved and recognizable. They include two main varieties, the hysterical (dissociation) syndromes and the tension syndromes.

4. *The Psychoses.*—These are acquired disorders of mind in which the mechanism of self is disordered past the point of recognition or is so threatened. They include mania, depression and the schizophrenic syndromes.

Cutting across this main classification are the obsessional states and paranoid states, so named on account of their most prominent symptoms, but in all cases re-classifiable within one or other of the main syndromes.

5. *The Psychosomatic Syndromes.*—These are conditions in which a disorder of bodily function occurs secondarily to a causal psychological disturbance.

6. *Congenital Mental Defect.*—These are conditions due to faulty

development of the brain. All such patients may develop any one of the mental disorders enumerated above.

7. *Neurasthenic Syndrome.*—Finally we have to study a miscellaneous group of conditions in which a primary source of bodily ill-health so undermines the zest and capacity for living that neurosis supervenes. Etymologically considered, these may well be called neurasthenia. They are somewhat loosely but incorrectly referred to as coming within the "psychosomatic" group, but in any individual instance may receive a more psychiatrically significant label, such as hysteria or depression and the like. Strictly speaking they are a variety of organic reaction but require careful distinction from those reactions in which the brain itself is the seat of pathological processes. Such reactions as the nervous accompaniment of anaemia, endocrine upset, rheumatism or even introgenic conditions all require a pigeonhole for classificatory purposes. There is no satisfactory generic term which describes these reactions. Moreover, a vicious circle frequently develops upon which is built up a vague ill-health from amongst whose symptom complex chance, or the predilection of the individual physician, determines their labelling. A large proportion of the hypochondriacal syndromes are to be encountered in this miscellaneous group. Perhaps their most characteristic feature is a quality of jaded dispirited ill-health accompanied by a state of chronic mild depression.

Treatment

Treatment for mental disorder is based on classification. The organic reactions require treatment of the physical disorder responsible for the brain pathology. The neuroses require psychotherapy combined with whatever adjustment of the real situation is practicable. The psychoses require physical forms of therapy which act presumably by resting those functions which mediate cerebral activity into mind. In addition, they may require psychotherapy to combat feedback processes. In all cases of mental disorder other than those of the organic reaction type, there is scope for therapy, which takes into consideration the dimension of purpose. What divides psychotherapy into various "schools" is the difference in their working hypotheses which refer to the dynamic mechanism of self. Most are united in their attempt to break up stereotypes of thinking and conduct based on affective theme patterns characteristically laid down in childhood. The analysis of these patterns and the actual technique of attack in general are of two main varieties. Those based on eclecticism and those which embrace the doctrines and technique of Freudian psychoanalysis. The techniques I employ are based on eclecticism as follows:

The symptoms of a large number of patients possess meaning which refers to their real situation. Where possible this must be adjusted and the patient encouraged to cope with the noxious factor by means of consciously thought out behaviour. This is correct treatment of all hysteria.

When there is tension it may often be allayed by physical means (including drugs) which promote relaxation, but many cases demand some degree of psychological analysis. When there is depression or mania there is likely to be scope for shock therapy, and this is true whether the disorder of mood occurs in a relatively pure culture (manic and depressive states) or whether it occurs in a setting of thought disorder (schizophrenia). Presumably shock treatment acts by subduing those physiological activities of brain which mediate mind, so that on resuscitation following shock treatment, it often happens that mind is healthily reconstituted. In a wide range and variety of syndromes there may be scope for the breaking down of automatic stereoptypes of thinking and feeling by analysis and excitatory abreaction.

These analytic methods of treatment, at the same time as their effect on stereoptypes of feeling and behaviour, appear to act by the catharsis of repressed emotion. There exists no satisfactory explanation and no working hypotheses other than those advanced by Freud whereby we can understand what transpires when the patient is treated by these means. Whether it is necessary to engender and make use of the transference situation to the extent recommended by the Freudians, and how in general one should design the length of a course of treatment are very debatable topics. Except in the case of a chronic psychopath, I am of the opinion that in a large majority of cases it is brief psychotherapy or none at all. Apart altogether from analytical therapy in such cases, there is infinite scope for supportive measures and seeing that kindness and attention (which comfort all human beings under stress) is sound therapy, it will always be difficult to disentangle the empirical from the scientific remedy. These remarks especially apply to the task of estimating what scientific basis there is in the various analytic techniques.

Finally, there is that aspect of therapy which is concerned with the ordering of the daily life of the patient within which is to be included the care, supervision and control of those patients who require such for their own or others' safety. In all cases it is axiomatic that any physical disorder which exists requires attention.

Suppose we turn to the study of an actual patient, in this instance one who was suffering from asthma, and was a neurotic invalid, and see how the various avenues of therapeutic approach were exploited. This patient was liable to attacks of bronchospasm, and in addition

was manifesting attacks of hysterical hyperpnoea. Pervading her whole personality was an air of anxiety and subdued depression. She was living with her mother-in-law in a damp locality and a home she disliked, and was depressed in the manner of all who have given up hope of achieving happiness. She had chronic bronchitis, and it transpired that one of her vagus nerves was caught up in chronically inflamed hilar lymphatic glands. A psychological analysis was necessary to undercut the purposive (hysterical) aspects of her invalidism (hyperpnoea). Her anxiety required soothing, and her bronchitis treating by means of postural drainage. Her depression responded to shock therapy, but to prevent it recurring she was found a new home and a suitable job. Her final cure followed section of portions of her left vagus nerve, from which an ever-present stimulus (arising out of its being encased in chronic inflamed glands) was a basic cause of the bronchospasm.

In this particular instance there are exemplified many processes whereby a "self" was influenced, successful attack upon all of which was necessary before the patient could return to normal healthy contributory membership of society.

Only in a few cases do so many factors operate and are at the same time susceptible to treatment; and in consequence, our therapeutic attack is often only partially deployed. Moreover, there are many cases in which no line of therapeutic attack is open to us, and incurable invalidism or mental disorder supervenes. In a few of these latter instances especially where chronic incurable tension is present, there may be scope for the ultimate recourse of leucotomy.

Often enough one is content if, though having failed to cure a "disease," one has terminated invalidism. In all patients we are confronted with the task of fitting them into society in such a way as to render them effective contributors. Perhaps the most important point requiring emphasis is that mental analysis of itself can achieve a cure in only a proportion of a selected group of all those people who suffer from mental disorder.

EPITOME

THE subject matter of psychiatry is mental ill-health. This affects a dynamic mechanism the "self," and is causally related to endowment, growth, patterning, environment and teleology. The various schools of psychiatry differ in their working hypotheses and descriptive connotation of the "self," but in general it may be said that all envisage a natural self, a regulator ("ego") and an aspect which is especially concerned with the mores. They differ in respect of their emphasis on causal factors, and in consequence they pursue different techniques of therapy.

A study of the brain links the psychiatrist with the anatomist, the physiologist, and the pathologist, and thus establishes his connection with formal medical discipline. A study of experience and behaviour link him with the psychologist. A study of human relations link him with the sociologist and the anthropologist.

Psychiatry thus draws upon heterogeneous material, and is therefore particularly prone to construct conjunctive propositions which embody items from separate categories. This is usually held to be improper by philosophers. In consequence, psychiatry can only be studied as a set of more or less related topics, although acceptance of all that has to do with the self posits a category within which propositions having to do with the various aspects of the self may be constructed. Such a method evades, if only polemically, the philosophic difficulties. It is therefore especially important to state in which ways certain terms are employed, and what working hypotheses (subsidiary to the master hypothesis of the self) are made use of. The clinical psychiatrist is, however, not primarily concerned with the rules of logic or the science of constructing propositions, but rather with establishing a means of communication with his patients who are members of the laity. His secondary concern is to establish a framework of reference which may be related to those other disciplines of study, such as anatomy, physiology, psychology and sociology with which he comes into contact. These prolegomena have been designed especially for this latter purpose.

Any claim which the psychiatrist advances towards having a contribution to bring to the understanding of human nature are no more valid than those of the novelist, dramatist or practical man of affairs, except when he is engaged in his vocation as a physician. At such times he alone is invested with the responsibility of judging whether or not his patient is sick and in what manner his remedies should be applied. In order to do this, however, he must assess purpose; and when so doing he comes very near to manipulating concepts which others subsume under the term "Soul."

(*Concluded*)

A CRITICISM OF PRESENT-DAY PHYSICS

VISCOUNT SAMUEL

[A book by Viscount Samuel was published, in February 1951, entitled *Essay in Physics, with a Letter from Dr. Albert Einstein*:[1] it was a criticism, from a philosophic standpoint, of the attitude now generally adopted by physicists on some of the fundamental problems, together with a suggestion for a new approach. The book was reviewed in *Philosophy*, in the issue of October 1951, by Professor W. H. McCrea, and this article has been written by Viscount Samuel in reply.]

I

I AM grateful for the attention which *Philosophy* has given to my little book *Essay in Physics*. The review by Professor McCrea brings out clearly its essential point, and criticizes it in a manner so well-balanced and fair, and at the same time so penetrating, that it calls for a reply.

The reviewer suggests that the book is based upon a misunderstanding of what is really the position of present-day physicists. He says: "Lord Samuel's first chapter on 'Nature and Mathematics' is a critical commentary upon a variety of concepts: the 'physically real,' 'space-time,' 'explanation,' 'chance' and statistics. Broadly speaking, he aims to distinguish between 'fictional abstractions' and the 'physically real.' However, he does not sufficiently recognize that what he regards as real is not immediately given, that the things which he terms physically real are in fact *constructs* that the mind sets in correspondence with *sensations* or *experience*. This point is fully and vividly dealt with by Professor Einstein in the published letter. It seems to the reviewer to underlie all Lord Samuel's difficulties. For it means (*a*) that the distinction he wishes to make is largely illusory, (*b*) that the constructs which constitute physical reality are not necessarily either uniquely or finally determined, (*c*) that there is no physics without physical *theory*." But I do not plead guilty to any misunderstanding. I have taken the present conception of the right foundation for physics to be precisely as Professor McCrea so lucidly describes it. And it is just that conception which, I suggest, ought to be rejected.

That there is no physics without physical theory everyone will agree; but we need not agree with the consequence that some physicists appear to draw from it, that without physics there is no universe—or put, more moderately, that, if there is a real, objective,

[1] *Essay in Physics*, by Viscount Samuel with a Letter from Dr. Albert Einstein. (Published by Basil Blackwell, Oxford; American edition, Harcourt Brace & Co., New York.)

given universe, only so much of it as can be directly observed by physicists and made the basis for measurement and prediction can be the subject of useful enquiry.

The reviewer also says that, so far as he can follow my argument, I appear to hold that "chairs, tables, atoms, electrons, electromagnetic fields, and so on, are 'real' independently of our experience." I should not myself have stated the position in those terms; and as I am anxious that the argument should be free from misunderstanding, on the one side as on the other, I would restate in a different form, and as concisely as may be, the main proposition that I have offered for consideration.

II

In our study of the universe we find that we are dealing with matters belonging to three different categories. In the first are the events and processes of nature—using that word arbitrarily to mean the universe apart from man. In the second are the human apprehensions of those events and processes as evoked in our minds through our senses (aided by scientific apparatus). In the third are constructs of the human mind, mainly mathematical or logical, which are subjective and not objective—that is to say are not directly consequent upon the outside events and processes.

The first category comprises the whole of the *real* universe: it consists of "things in themselves." These existed for aeons before man existed, and we have no reason to doubt that they would go on existing if man were to disappear from the earth, or the earth from the solar system. The notion that "existence depends upon perception" is no more than an empty paradox.

The second category comprises *some parts* of the first; apprehended to such an extent, and interpreted in such ways, as the character of our bodies and minds makes possible. The extent to which we are able to apprehend them varies from one epoch to another. Primitive man—and the animals—had cognizance of only a fraction of what we now know. But their awareness of their own immediate environment, including for example the light and warmth that come from the sun, is valid evidence of the factual existence of earth and sun. As science developed, man's knowledge of the given universe expanded. He has made many mistakes in his attempts to correlate the actual phenomena with his own perceptions. Starting, very naturally, from an egocentric standpoint, he assumed for instance that the sun and the heavens were in fact daily revolving round the earth, as they appeared to do. For centuries he believed that all material objects consisted of various combinations of four elements —earth, air, fire and water. He believed until lately that material

things were composed of atoms, that were hard and solid and indivisible. Gradually, through the researches and discoveries of the great pioneers of science, and a multitude of lesser ones, those mistakes, and many others, have been corrected. But the fact that mistakes have been made, while it renders it likely that we are still unwittingly making other mistakes, does not oblige us to believe that there is no possibility of reaching objective truth as to the characteristics of the universe. On the contrary, the fact that it has been discovered, and is now generally agreed, that certain of our theories have been mistaken is itself a proof that there is a real universe existing independently. It is by reference to that objective universe that the subjective ideas we have formed at any particular time must be tested, and may be sometimes proved to be true, sometimes untrue.

The third category, consisting of constructs of the human imagination, includes symbols or measurements of physically real events or processes. These constructs are not themselves physically real. They have indeed that kind of reality that belongs to all ideas in human minds. They may indirectly, as ideas, influence the activities of human beings, and thereby contribute to the practical consequences that follow and help to shape the course of events. But, being of an entirely different order, they have no direct contacts with physical phenomena of nature—such as the transmission of radiations or the movement of material things. They cannot directly affect those phenomena in any way whatever.

If we were to try to allocate between those three categories the principal matters that concern the science of physics, we might propose some such classification as the following—(although, no doubt, different students of the subject might distribute particular items differently):

(*a*) The objective, given universe includes—energy, electronic particles, atoms and their oscillations, infra-atomic and inter-atomic electric charges, electromagnetic radiations, gravity; molecules, and molar objects; sound waves; scent particles; the movements, relatively to one another, of all objects—from particles to astral bodies.

(*b*) The universe as perceived and interpreted by minds includes—light and heat; weight; colours, sounds, odours.

(*c*) Human constructs include all forms of measurement and means of calculation—such as geometries, numbers and algebraical symbols, statistics, probabilities; longitude and latitude; temperature; space, time and space-time; the electromagnetic field, inertial systems, mass, velocity and momentum.

(The place of the Quantum is a debatable point.)

There is one obvious, and momentous, omission from this catalogue. Among the elements of the given universe are surely Life and Mind. But of these we have as yet no understanding. We are aware of their manifestations but know nothing of their character. In any event, they are outside the scope of physics (apart from biophysics).

III

If either the philosopher or the physicist, taking a bird's-eye view of this province as a whole, would be willing to consider it mapped out, as it were, into those three categories, he might find that his problems were somewhat simplified.

The philosopher might realize that some of the troubles that vex him now, and had vexed his forebears all through the centuries, had come from a failure to differentiate sufficiently between category (*a*) and category (*b*), between the given, independent universe and human perceptions and appreciations of it. And this confusion may be largely due to the fact that, when we philosophize, we are obliged —for the very reason that it is we who are philosophizing—to treat ourselves as one party and the universe as the other party. But we know all the time that this is quite arbitrary: it is nothing more than a convention, accepted because it is convenient as a framework for our thinking. We know that in point of fact man—with his thinking, his doings, and all his belongings—is as much a part of nature as the plants and the animals, the rocks and the rivers, the planets and the stars. As Emerson says, "Nature, which made the mason, made the house." Man in fact has a dual capacity—he is as much an integral part of nature as any other organism, but he functions also as a detached observer—which the other organisms cannot do.

The importance of this is seen when we consider afresh the perennial problem of the nature of reality. It is often thought that the discovery of the electronic structure of matter has shown that our common-sense idea of "solidity" is illusion; solidity is mere "appearance," it is the atomic "volumes mainly of emptiness" that are reality. But here, as in so much else, the question is one of relations. A brick wall is still in fact solid in relation to other things—a man leaning against it, a nail driven into it, light-waves impinging on it. The electric forces that bind the particles to make atoms and the atoms to make molecules, and so allow the whole to present a resisting surface, these are just as real as anything else. On the other hand the wall is now seen to be not-solid relatively to radio-waves; these can pass through it quite easily. Similarly a window-pane is solid to the bee buzzing against it trying to get out, or to a rain-storm beating upon it from outside;

while at the same time it is not-solid to rays of light, or, in this case again, to radio-waves.

The physicist might come to see that some of his own present difficulties have arisen from a confusion between category (*c*), on the one hand and categories (*a*) and (*b*) together on the other. A human concept is one thing, a physical fact is wholly different—whether it is observed or observable by human beings or not, and whether it is apprehended correctly or incorrectly.

In any text-book of modern physics the words "observer," "measurement" and "prediction" appear in most of the important passages. If you were to strike them out, modern physics would collapse. But if you were to eliminate altogether from the universe the observer, his calculations and his predictions, the processes of nature would still go on, quite unperturbed.

IV

Theoretical physics at this moment gives us no answer that will carry conviction to these problems, among others—(1) What is it that transmits, from one place to another, the various kinds of electromagnetic radiations—solar light and heat for example, or radio broadcasts? If it is answered that wave-sequences transmit them, the question arises, Waves of what? A wave is no more than a form, a pattern; there must be something else that is being patterned. There could be no waves on the sea without the water, no sound-waves in the atmosphere without the air; and there can be no light-waves or radio-waves without . . . *what?*

(2) We see the effect of gravity every time an object falls to the ground, or when we watch the tide creeping up the beach, or consider the planets revolving round the sun. What is the cause of gravitation and how is it transmitted—on the earth and across the cosmos?

(3) What is the cause of impetus? A ball is thrown or a bullet is fired: why do they continue to travel, away from the impelling source, after the impulse, from the hand or the exploded cartridge, has ceased to affect them?

(4) If, as some hold, the theory of the continuous creation of particles is well-founded, must there not be a matrix out of which the particles may appear and into which, if they prove unstable, they may disappear again? What is that matrix?

V

A material ether was offered by nineteenth century science as an answer to questions such as these, but valid reasons were given for

disbelieving in its existence. Relativity theory then offered a substitute to account for the observed physical phenomena: it was "Space," endowed with metrical properties, and with "curvatures, hills and declensions." This has held the field for the last half-century.

But here—in a matter of fundamental importance—we find a striking instance of the confusion of the categories: an assumption that a concept of the human imagination can directly interact with factual events in the given universe. And it is surprising to find that those physicists who are most emphatic as to the necessity for excluding unobservables from the purview of science, are also those who are the most ready to accept, as the basis for all things, the figments of Space and Time. Has anyone ever observed either the one or the other—measured it except in imagination, experimented with it in the laboratories?

We are compelled, then, to look elsewhere to see whether we can find some element in the universe which may furnish us with a clue to those outstanding problems, pressed upon us insistently by practical experience. And if that element were to be, not novel, recondite and elusive, but well-known, obvious and constantly observed and measured by scientists, so much the better. There is such an element. It is Energy.

That energy has real existence cannot be doubted. Consider the motion of things; radiations; the effects of gravity: consider particular cases—a rising tide, a flash of lightning, the explosion of a nuclear bomb—everywhere you will find irrefutable proof of the existence of energy as the cause of underlying events. But it would be impossible to find here the explanation of phenomena if we were limited only to energy in an active state such as we are able to perceive all about us. A universe consisting of that alone would be a raging chaos, like the interior of incandescent stars. We must conceive that energy, active at one time, may also be quiescent at another: that it exists, in fact, in two states, active and quiescent, and is able to pass easily from the one to the other.

Common experience gives us many examples of entities in two states, sometimes more. A chemical element or compound may proceed from the gaseous, to the liquid and then to the solid state, or vice versa. Things can be either hot or cold—that is to say their molecules can be in a state of thermal agitation or not in that state. An electric battery or wire may be "live" or "dead." The surface of the sea may be rough or smooth, the atmosphere stormy or calm. And, whenever the requisite conditions are fulfilled, one of those states will pass readily into another. Why, then, may we not infer that the manifestations of active energy do not come spontaneously from nowhere, but emerge from a universal continuum of energy, already present in a state of quiescence?

The greater part of my essay is devoted to exploring, from that starting-point, new approaches to the problems now outstanding, but neglected. Speculation and hypothesis have ever been accepted as legitimate stages in scientific exploration, provided that they are based on inferences from facts ascertained by observation and experiment. On that basis the speculation is offered for the consideration of physicists that the universe consists, physically, of a single constituent—energy; that this may be either quiescent or active; and that all the phenomena of nature originate and are maintained by activations of quiescent energy, with reversions to quiescence.

But here it is not possible to do more than indicate the general purpose of the argument.

A REALISM FOR RECONCILIATION

KENNETH HENDERSON, M.A., B.Litt.
(*Religious Broadcasts Supervisor: Australian Broadcasting Commission*)

"I AM not mad, most noble Festus, but speak the words of truth and soberness." In this cry of Paul's we hear the idealist in all ages making his agonized claim to realism in face of the Powers that Be. Festus and Agrippa represent the ex-officio history-makers in this scene. Paul is proclaiming fundamental facts and possibilities that those who have power fail to see. And so, in claiming to be sane, he becomes the spokesman for all who see the Not-Yet as stronger than the Now, and behold What is Meant to Be as more powerful than What Is.

Anyone who examines the cyclic feuds of our day—the feuds of ideologies, nations, classes, and pressure-groups—with a view to setting in motion tendencies towards reconciliation will have need of "the glorious company of the apostles and the goodly fellowship of the prophets," by whom men and societies have been changed for the better, and he will need the help of realists of this kind before he can reach out and call to his aid contemporary economists, psychologists and other experts who can help him to understand his world and plan for its relief. For his first problem is to establish in himself faith that there are possibilities of tide-turning reconciliation within the bounds of possibility.

To-day is no different from other days in confronting us with the fact that "the troubles of our hot and angry dust are from eternity, and shall not fail." But surely feuds among men have never been so organized, interlocked, efficient and comprehensive in their coverage of human affairs. Everything that we make or think is more or less involved. Not only are nations grouped into hostile camps by hostile interpretations of life, but the traditional class war within nations lingers on, though in economies where movement is possible, it is passing into a war of pressure groups that is becoming ever more intense. This warfare is between the economic groups organized round the special skills which must work together to make civilization. As men have progressed in the art of organizing themselves largely for purposes that move them deeply, these group prides and assertions have organized themselves more largely and closely for self-propagating and combat. They have, indeed, made themselves for man-making. They draw their members into a system of beliefs, emotions and attitudes. And as most people get their feelings and ideas as to what is true, real and possible from the life that surrounds and conditions them, most people find it hard to believe in

the possibility of any new development that contradicts the current of sentiment and the trend of events in their world. Such a possibility is reconciliation. Among our discords, this question of reconciliation is raised in the key of despair, for our troubles have dogmatized, organized and concentrated themselves into forces and feuds of unprecedented and growing destructiveness. The cost of stripes we can estimate, but who shall estimate the continuing costs of anxiety?

Examining our troubles in their present social and historic forms, I hold there can be discerned certain possibilities of initiating movements towards reconciliation. But how are people, conditioned by their feuds, to find faith for the first steps? For these initiatives towards reconciliation must spring from pre-reciprocated goodwill. Against this present tendency still to intensify our feuds, there exists the possibility of one victorious reply—that of competent pre-reciprocated goodwill—goodwill that is tough, persistent, policy-making, and to begin with, unsuccessful.

Restoring the quality of victory to our common spiritual achievement and our personal standards, depends, therefore, on pre-reciprocated goodwill—accurately relevant to its challenges, organized, long range in space and time, more persistent, tough and efficient than its enemies. But goodwill that is effective does not materialize out of a cloud of becoming. The initiatives of this pre-reciprocated goodwill must arise from the cold and effective heroism of the individual within his political and economic group. The mover will need the detachment of religious faith, and the policy-making competence derived from sympathetic knowledge of his world. This pre-reciprocated goodwill must be religious in temper and faith, in that to do its work it must be a response to Ultimate Reality, and not merely a reaction to surrounding behaviour. It calls for activities that must support themselves without much help from surrounding behaviour. "Unnatural" are the activities essentially tide-turning, i.e., the constructive forgiveness of enemies, caring for those who don't respond, the fighting of long, losing battles with possibilities of success not visible in surrounding circumstance, but evident to insight into possibilities inherent in the nature of the universe.

This is the cross in its sociological task. It calls for love at long range—goodwill beyond personal contact to persons anonymous and unresponding, and goodwill linking through knowledge, feeling and policy from group to alien group. The kind of goodwill meant is the New Testament "agape"—active imaginative consideration, respect, sympathy and helpfulness. The word preferred here is Magnanimity, which suggests size and scope. "What is the bit extra that you do" (*ti perisson poieite?*) asked Jesus of His disciples. This "unnatural" response to the troubles of our time is It.

Except as a kind of religious faith penetrating below appearance,

magnanimity can scarcely maintain itself as creative faith within the appearance of superficial hopelessness. Its sustaining realism is pictured by the Christian as the Grace of God. And for this reason the most workmanlike picture we can make of God is to conceive of Him as a World of Responding, characterized by Christ, present to every generation in its own life-saving ideals.

In this context What and Whom do we mean by "Christ?" Here we may picture Him as the spirit of Jesus of Nazareth released from its historical limits, gathering fresh insights from the agonies of history, and setting free in us ever-growing insights into what is fundamentally going on. These insights of pioneers and prophets tend to gather together into a contemporary spiritual common-sense working in creative minds. This faith for redeeming man from the organized dangers of his present hour, may work as a "horizontal" religion of secular task and temper which yet can pray into the fundamental creative energies of the universe. And it may work as a "vertical" religion compelled at the earthward end to translate itself into practical policies to save men from soul and body killing political sins, that is to work as the mode of divine Love necessary to save men from sins that are made mortal to human society, by their present resources of power for the killing of body and soul.

Either way regarded it is the kind of faith capable of reconciling "vertical" and "horizontal" idealists now alienated from each other by the fashions of thought prevailing in their respective areas. It has been said that for those to whom God matters, nothing else matters, and those who care for the material welfare of their generation tend to care for nothing beyond. But it is to personalities that reconcile "vertical" and "horizontal" idealism that we must look for present-day saviours, who, by their modes and degrees of crucifixion, can competently present to their groups those changes of aim, policy, outlook and feeling necessary for those groups to play their specific part in transforming into reconciliations the feuds that now dominate the world. This is the "remnant" by which we must be saved.

History is the baby-talk of philosophy. We are not entitled to look forward to an age wherein "thought is lord in Time's complete estate." Man is coined small, and individuals are not apt to reconcile antitheses and complexities within themselves. History is made by people who emotionally over-simplify large ideas—who take fragmentary theses concerning the well-being of man and society, and try to make them do the whole work of an epoch; each age fails to achieve sanity by failing to qualify its sweeping beliefs and dominant aims with the compensating beliefs and values that would in a mixture make the good life come true.

But the good life in politics and industry needs not only a balanced

spirituality, but an honest mixture of spiritual and material justice—of devotion and self-interest. Virtue must not only be valued. It must be financed. Even a St. Francis needs financing. History can be made less immature in the making, by raising the level of that kind of intelligence whereby man can understand what is fundamentally going on. Christianity at heart is the claim to be a basic realism, however that claim may be ecclesiastically obscured. It has one voice calling its members to be history-makers in a temper of creative reconciliation. It has one voice recalling history-makers to Christianity. Not by Church dictatorships, but by generating magnanimity, wisdom and courage, the Christians who compose the Christian Church must accept for the Spirit that informs it the tremendous task of mastering the future, and this in order to save humanity from worse evils, and enable men to achieve more abundant life.

People moved by this motive, as they come nearer the facts that offer them wounds or rewards, become aware that their motives are constantly getting mixed. That fight for integrity within the individual is the perpetually crucial fight for Christianity's making of history.

Most people, whether Christians or not, take too etherealized a view of Christianity to picture it as mastering the kind of people engaged in the kind of concerns created by a state of social strife. The notion of mastering history seems too rough for a gentle or other-worldly philosophy. I do not think we are justified in attributing a this-world incompetence to the way of life suggested by the life and teachings of Jesus, who recognized the necessity for the kind of self-love that can work with the love of one's neighbour. Christianity, it is true, chooses out its heroic pathfinders, and requires of them a measure of efficient crucifixion—efficient, that is, on the part of the victim in stating the issues and presenting the case for the ideal.

But Christianity is also the most materialistic of all the great religions, as William Temple has said, regarding as good whatever a loving Father can desire for his children—washing machines for hard-pressed housewives, for example. Christianity blesses that effort towards material welfare which lifts off the human spirit some of the weight and friction of flesh and environment. Christianity, however dominant, is one of a number of competing motives within the individual. It sets up within the individual an unceasing tension and dialogue between desire for material well-being and responsible compassion for those who lack the essentials of welfare. It presents to its adherents the paradox that its ideals of conduct, once established, pay higher material dividends in the better working of men together, but that these ideals don't "pay" those who pioneer them in any field to which they are new. Prudence blesses new moral development, once established; crucifixion initiates it.

The unavoidable "plan of salvation" for man in society calls for stark and simple statement. It is pre-reciprocated goodwill, worked out into reconciling policies capable of doing the practical work that feuds cannot do, such policies to be initiated by heroic tide-turning individuals within their own groups. "The future of the world depends on the behaviour of the individual within his group," says Buber. He must question and break up its self-righteousness, its weapons and tactics, its traditional habits and attitudes of militancy.

Pre-reciprocated goodwill as generalized injunction remains unreal. Nor is it enough for the prophet of things to come to accept some measure of suffering. He must suffer competently. His message must indicate his group's contribution to the resolving of a feud, and must make sense of an actual situation of which conflict is making nonsense. But in this sense, God, who is to be obeyed, is not God in the sky; not God outside creation, but God in the situation, and he who would understand what God wants done must thoroughly understand the situation in order to appreciate what Love at any moment can do.

But while this "plan of salvation" can be simply stated, to think and live it as a Gospel, within the situations which it is meant to make different, is infinitely complex and difficult. In a book to which this article belongs, I have tried to prove that within the main feuds of our time, believing in reconciliating is not so absurd as it feels in the present state of affairs. I have tried to show that there are secular trends and dialectical developments, working in these tumults, to favour reconciliation. And this against the background Christian belief that the Gospel of reconciliation, though it calls for an "unnatural" effort from its prophets, is an attempt to restore what is natural, and persuade people to live according to their nature, so ordered as to give expression to its every part.

No kind of religious faith—"vertical" or "horizontal"—can work unless it be accepted as a Truth-bearing picture of Reality. No religion can work unless it is believed.

It is necessary to make the faith that undertakes historical reconciliations more capable of taking the strain by mixing with it the hardening alloy of prudence where it grips facts. "I have many things to say but ye cannot bear them now," said the Lord in St. John's Gospel. Reconciliations between countries, classes and groups call for an honest mixture of motive. We must give the situation all the idealism it can stand. But there can be an honest "double-barelled" appeal. But prudence alone is not enough. As a temper, prudence can see far down the logic of destructiveness and reward that attend on feud and reconciliation. But as personal policy, prudence always induces the individual to take his own profit from the given situation, whether it be hell or heaven. It is the person of

essentially religious faith, feeling the bedrock of the universe underneath him, who tries to transform the actual situations in interlocking feuds such as we have to-day.

In another figure, we may say that between this state of fighting and feuding and the earthly paradise that knowledge has made possible, there lies the steep and dark Valley of Decision. It is the individual that the Promised Land summons to come out from the area of feud which gives him such insecure status and fear-riven sense of security as he has. Every individual must cross the Valley, and take its risks in his own loneliness, not for the material promises, but for the worth of the adventure. On the other side is good, solid earth where good men reap good harvests. And yet before the Land of Promise can be conquered, enough people must have gone over to form strong groups of inter-locking skills on the other side. That conquest will always be incomplete and endangered. The pilgrims will take with them possibilities of strife. The traffic will never be all the one way. Since 1914 we have been driven back across the Valley from some conquered territory. Yet at any historical moment, this conquest of the Land of Promise can be made less incomplete. The prevailing dread of illusion is as a cold mist that fills the bottom of that Valley of Decision.

We dread the naïve mistake; we are frightened of the unsophistication of unreciprocated generosity. Cynicism can make its estimates and prophecies come true. Defensive self-interest, even though its defences prove futile, can console itself that it has been "practical" and "logical." By the very concrete damage that it can give and take, Pride vindicates its romantic self-sufficient claims to be "practical," in the sense that it is of this world.

Like pride, constructive idealism calls on ordinary individuals to leave the norms in which they huddle, and in that sense, is "unpractical." But in trying to open up creative intercourse between men who are breaking each other's peace, it can claim to be calling free people to a fundamental realism, and from self-communicating Ultimate Reality it may faithfully ask for sound diagnoses of present situations and long-term effective policies for making people who can live the good life together.

And yet it is not to the hero remaining in isolation that we must look for deliverance from our feuds, though the individual who can stand alone has an essential part to play in beginning that deliverance, and we shall thank God for him or her wherever found. A world in the process of reconciliation will consist of more and more plain men bringing each other to more and more life, becoming personalities in greater degree through the infection of a good courage which gives freedom, courage, competence, range and distinctive service to their several characteristic ways of living their world and serving their

brethren. It is because just this spreading of initiative is lacking now that we live in a world of cyclic habit-driven feuds perpetuated in habit and organization which deprives their participants of mental and spiritual freedom.

When the plain man to-day opens his eyes to this world of feuds within feuds, he sees a world whose realities are large trends, tendencies, historical units in which he is an indistinguishable unit—large units speaking in large and angry generalizations in which usually he plays a semi-conscious part in the chorus, but has as alternatives resignation or futile protest.

A generalization or trend tends to dominate the individual partly because it overwhelms him with an illusory strength due to its apparent volume. It is indeed a flow of assent from many individuals. But it is comparatively gaseous compared with the hard-willing, hard-thinking individual with distinctive convictions and policies, who himself gains size and significance from his confronting of the flow.

The individual within his group can always cease to feel like an atom in a gas and claim his role as a person in a story. "The responsibility of freedom, the anxious predicament of being human in a capricious and unstable social and political environment" is there to be resumed as soon as we cease to hold it at bay by fear and the anaesthetics of triviality.

The problem of deliverance from our feuds, then, is that of recovering for the social individual a freedom that is competent in the interests of compassion and righteousness.

As long as we are aware only of the clashes of generalizations and large units, we are living in a world hopeless and only superficially real. But when an individual, living within conflicting organizations, reminds himself (*a*) that he has the power to decide how he will be affected by these pressures, and (*b*) that he and his behaviour in this turmoil is the ultimate deciding fact, and that what will happen will partly at least be what he thinks, feels and does, then his own personal world becomes a world chargeable with meaning, hope and triumph. And as there becomes more of him, the world of contemporary history will be shot through with meaning, hope and victory.

To-day anyone who is a nonentity is apt to become a missile hurled by organized hate.

Love is the cure for nonentity.

It is love, in the practical New Testament sense, that will restore the creative, sympathetic, colourful, brave, suggestive individuality of the plain man. It is love become self-confident that enables the plain man to affirm himself from depth in the world of organized quarrels to which his circumstances belong. Love can become self-

confident in this midst of organized quarrels when it believes that it is the fundamentally creative power, that it is the voice of an ultimate Reality, or in St. John's words that: "He that loveth is of God." The plight of the world as the crashing together of conflicting vastnesses can only remain hopelessly large for the individual so long as he refuses to live it as a personal problem within his own life. His greatest effort of wide-ranging thought and imaginative sympathy are constantly required of him for the understanding of such of its problems as he can competently assert himself in. Whatever his mental scope, he must become one of the voices making themselves heard as far as possible. Every lover of the world must make himself as great as he can; everyone has limits. The small life in which goodwill is lived as well and widely as possible helps to make possible the great life.

However threatening the affairs of this world may be, they can become for any individual the means of personal and fruitful victory; and through "small" men and great men enabling each other to love more competently and effectively, Ultimate Reality—God—through man's freedom can transform man's world.

PHILOSOPHICAL SURVEY

PHILOSOPHY IN FRANCE

It is not easy for an Englishman to acquire a competent knowledge of French philosophy. For one thing there are so many French philosophers writing so many books, and for another the multiplicity of men is matched by the variety of views. In a country where a knowledge of philosophy is expected of any cultivated man, and where the flourishing of philosophy in school and university curricula is regarded as a condition of intellectual freedom, this variety is accepted as part of the cultural background. Professor Bréhier's *Transformation de la Philosophie Française* (Flammarion, Paris, 1950) must, even so, be of great value to French readers, because of the author's capacity—so admirably shown already in a *History of Philosophy* that is unquestionably the best now obtainable—to pick out what is essential in a welter of theories, arguments, and mere pronouncements. To English readers, whose knowledge of the background is necessarily limited, this book is particularly valuable, not only for the clarification it brings, but also for a bibliography that is closely related to the text. M. Bréhier observes that French philosophers of the generation that followed and criticized Durkheim, Bergson and Brunschwicg showed themselves acutely conscious of the discontinuities of things, and puritanically averse to the construction of philosophical systems. (We may compare the roughly contemporaneous reaction in this country against the systems of Bosanquet and Alexander, though the arguments were for the most part very different.) M. Bréhier, however, does not take this anti-systematic, pluralist tendency at its own valuation. French philosophy, he thinks, is in a phase that makes it comparable to medieval philosophy. It was characteristic of medieval philosophy that it comprised no individually constructed systems like those, for example, of Descartes, Leibniz, Hegel, and Schopenhauer, which have grown up and died away in Europe since the Renaissance. The main reason for this was that Christianity itself provided a common system which was never to be questioned, so that philosophers concerned themselves not with systems, for that would have led to heresy, but with particular *problems*. Part of M. Bréhier's parallel with modern times is that some Christians and all Marxists aim to produce the same condition. As to Christianity, M. Bréhier writes: "Thus this religion, which its adherents regarded as concerned with our supernatural destiny and which its opponents regarded as the result of an illusion or as a means of political power, becomes the very substance of philosophical thought, whereas philosophy ought to emancipate itself from both these attitudes in order to carry on its free enquiry. It is most important not to confuse this sort of Christian philosophical attitude with the fact that our Western civilization is and remains a Christian civilization which has moulded our minds and which is linked to those epochs when the humanism of the ancient world was preserved and modern science was brought into being; there is thus a whole with intimately linked elements that has made the Western world what it is. But this whole has a place in it for rationalism, and provides no ground for the exclusive claims of a 'Christian philosophy' in the sense I have just indicated." On Marxism M. Bréhier comments as follows: "In one of its aspects Marxism is an objectivist interpretation of history, and as such is a form of critical history; but in another of its aspects it is an

unconditional adherence to this interpretation claiming to receive the practical devotion of its supporters and to give solutions to all the philosophical problems that can legitimately be raised; Marxism was the offspring of political economy, or rather of criticism of that science, and, adopting the dogmatic manner of the early economists, deduces philosophical assertions (historical and dialectical materialism, the nature of science and art) as conditions for its practical success." It will be seen, therefore, that M. Bréhier considers that "Christian philosophy" and Marxism cannot undertake the fundamental criticism that is essential for genuine philosophy, and it is not surprising that neither Gilson nor Maritain, Cornu nor Lefèvre is mentioned in the book. He finds traces of this medieval attitude, however, in writers who would pride themselves on their independence of the Christian or the Marxist dogmatism. For the apparently modest programme of eschewing system-building and tackling specific problems instead, is generally carried out on the basis of assumptions about what the world is really like that can best be called "pre-philosophical." The pluralist preference for problems rather than systems may thus be, on M. Bréhier's view, a means of avoiding fundamental philosophical issues altogether. What he does not make clear in this book, and what it is to be hoped he will discuss more fully on some future occasion, is the nature of a philosophy that can avoid such "pre-philosophies" as the Christian view of the world, the scientific view of the world, or Common Sense. It seems to me that the part of contemporary philosophy that most impresses M. Bréhier is the "philosophy of value," and more particularly that part of it in which the unity or disparateness of the chief forms of value—theoretical, moral, religious, aesthetic—are discussed. He himself appears to hold that unpredictability is the feature common to what continues to be most prized; that "authentic" values are those which "like true science as opposed to pedantry, the religion of mysticism as opposed to pharisaism, and living as opposed to academic art, continually achieve the unpredictable." This is a view for which there is much to be said, though I should have thought that "fecundity" was a word that better expressed the idea being aimed at. There is also some discussion of changes in fashion in "philosophical classics." It appears that in France at present Plotinus, St. Augustine, and Hegel are the most studied among them. This is in remarkable contrast with the sort of selection that would be made in Great Britain, where Hume would almost certainly hold chief place, and where Hegel would have been banished from the course as a bad influence. I should add that it is the tortuous cleverness of Hegel's *Phenomenology* rather than the systematic perversity of his *Logic* that interests contemporary Frenchmen.

I should remark in passing that M. Bréhier's book on Chrysippus, which first appeared in 1910, has been revised and reprinted (*Chrysippe et l'Ancien Stoïcisme*, Presses Universitaires de France, Paris, 1951), and that another valuable fairly recent book on Stoicism is Madame Virieux-Reymond's *La Logique et l'Epistémologie des Stoïciens. Leurs rapports avec la logique d'Aristote, la logistique et la pensée contemporaine.* (Editions "Lire," Chambéry, no date.)

There are groups of people who call themselves "Personalists" both in France and in this country. Personalism is the name of a movement which, like Stoicism, Utilitarianism, and British Hegelianism, aims at a way of life as well as at philosophical interpretation. In France, both its theories and its social and political policies are expounded in the periodical *Esprit* which was founded in 1932 by Emmanuel Mounier. Mounier, like Sartre, was a teacher of philosophy who was not content to remain as such, and who combined considerable literary ability with reforming zeal. It was a remarkable

achievement to keep *Esprit* in publication—apart from the years of the Occupation—during a period when so many journalistic attempts have met with failure. Mounier died in 1950, but his journal still continues, along the lines he laid down, to carry articles which command attention outside the circles that would subscribe to its tenets. What these tenets are can be seen from *Be Not Afraid, Studies in Personalist Sociology*, by Emmanuel Mounier (translated by Cynthia Rowland. With a foreword by Leslie Paul. Rockliff, London, 1951. Price 15s.), and from *Le Personnalisme*, by Emmanuel Mounier (Series "Que sais-je?" Presses Universitaires de France, Paris, 1950). The latter book, it should be mentioned, gives a more carefully arranged and later statement of his views than is contained in the articles of varying length translated in the first. In the first place, then, Mounier finds that the intellectual leaders of Western society are infected with moral nihilism. Moral nihilism is the condition of having no fixed moral principles and of being capable, in consequence, of acquiescing in all sorts of crimes and follies, not from wickedness, for this would presuppose standards, but from sceptical instability. A main cause of this is the extension of scientific method to the study of human nature and society without any clear notion of what is to be achieved by it. Individual people are thus lost sight of in "income brackets," classes, social forces, etc., and talk of social trends may be used to justify all sorts of iniquity. (In this country, the use of the word "labour," in such expressions as "skilled labour," "Irish labour," and "coloured labour," is significant. Idioms such as "to engage workmen" or "to take on men (or hands)" are being driven out by the expression "to obtain labour," with its suggestion of a material instead of men.) It is an aim of Personalism, therefore, to stress the importance of individual people, and Personalist philosophers endeavour to show what it is to be a person. The title of the review might suggest that Mounier and his friends urged the importance of minds as distinct from bodies, spirit as distinct from matter. This, however, was not their aim. On the contrary, Mounier argued, like Marx, that to consider the welfare of souls apart from the welfare of their bodies is frequently a subterfuge to avoid just dealings by offering "pie in the sky" instead of daily bread. Indeed, Mounier accepted much of what Marx—particularly the Marx of the *Philosophical and Economic Manuscripts* (1844)—had said about the fundamental character of men's working relationships, and agreed, too, that radical economic changes were necessary. Some of those who criticize industrial society hanker after a simple society without machines, but Mounier would have none of this nerveless defeatism, and would certainly have disagreed with that English editor who, when his journal ceased publication, announced, a propos of civilization in general, that "it is closing time in the gardens of the west." It will be seen that Mounier thought that Collectivism would be more favourable to the growth of personality than Individualism has been—a view, it seems to me, for which there is very little evidence. He thought that Individualism could be attacked on the metaphysical plane by showing that knowledge of one's self is bound up with knowledge of other people. That a Christian like Mounier should accept so many Marxist points of view is evidence of the great influence of Marx's philosophy on the Continent during the last twenty years. (Sartre, too, as well as some of his supporters, claim Marxist inspiration, even though Communists deride them as philosophers of the bourgeoisie in decay.) It should be noticed, however, that it is the writings of Marx himself that have had this influence rather than those of Lenin and Stalin, and that among Marx's writings it is the early and, so to say, *least* Marxist ones, that have gained most support. While *Esprit* has tended to take a "neutralist" line in foreign

politics, it has been outspoken in criticism of the political trials which politicians behind the Iron Curtain stage in such profusion. The connection between Mounier's metaphysics and his ethics is not easy to grasp, since from the proposition that knowledge of one's self entails knowledge of other people nothing seems to follow about how we ought to treat other people. It would surely be contradictory for an Individualist to claim to be a solipsist. Nor is it clear whether the assertion is that soul and body are aspects of one being, or whether they are different beings associated as a matter of fact in the human species. If the former, then Mounier should have held, as Spinoza did, that God necessarily has a body.

In conclusion I must mention M. Maxime Chastaing's *l'Existence d'Autrui* (Presses Universitaires de France, Paris, 1951). This is a book of 363 pages on the existence of other minds, in which 803 books and articles are referred to as dealing with that problem. The form of argument is suggested by Descartes' *Meditations*, even to the extent of the subjunctive mood—". . . pour que je diagnostiquasse l'existence d'autrui." . . . It is a tremendous quarry of information and subtle argument which it would be impertinent to pass judgment on without a full discussion. But it should be said now that the author, carrying his immense learning without pedantry, has written a book which shows metaphysical ability of a very high order. This is indeed philosophy, whereas Mounier's is high grade journalism.

H. B. Acton.

DISCUSSION

(I) ACTION AT A DISTANCE[1]

PROFESSOR W. H. McCREA

THIS is a subject of recurrent interest which calls for review from time to time; I believe the last word upon it can never be said. Several topical reasons might be cited for attempting to deal with it at the present time, but these could not be pursued to the relevant applications in such a short discussion. In fact the subject is obviously a difficult one to deal with at all briefly since it is so closely bound up with other large subjects—causality, space-time, and so on.

Typical problems that give rise to our subject are: What determines the way in which a plumb-line suspended in this room will set itself? How does a piece of iron act across a few feet of empty space to deflect a magnetic needle? How does the Sun at a distance of 93 million miles make me feel warm in this room? What determines the frame with respect to which the Earth is rotating in the manner revealed by the Foucault pendulum inside the Science Museum?

I do not assert that these are examples of action at a distance. The question is, Are they? This question clearly needs to be framed more precisely, though the reason it cannot be framed altogether precisely will shortly appear.

Apart from any specific physical theory, we can agree that what occurs at one place is related to what occurs at other places. If then, according to a particular theory T, an event A at one place is related to an event B at another place through some continuous set of events to which A, B themselves belong, we say that the relation is one of *action by contact* or that it satisfies the principle of *contiguity*.

On the other hand, if according to a theory T′ the events A, B are related without appeal to any other events we say that the relation is one of *action at a distance*.

[Mathematically, there are other possibilities, but we need not complicate the discussion by considering them here.]

Certain immediate comments are possible:—

1. The distinction is not, of course, that between the interaction of bodies in material contact and the interaction of bodies not in material contact. If it were, so soon as we take account of the molecular structure of material bodies we should have to conclude that all action is action at a distance.

2. No meaning is attached to the question as to whether action takes place at a distance except in relation to a particular theory. For we cannot give a meaning to the terms used in framing the question without reference to such a theory. "Distance" itself, for instance, is not something immediately given. It is a *construct* from our aggregate of experience. And the moment we use a construct we are in the realm of physical theory. Any tendency to regard, say, "distance" as something immediately given can be explained as an implicit appeal to some physical theory which has become a habit of thought.

3. It is now seen why we cannot give a precise description of our topic independently of specific theories. Strictly speaking the problem of action

[1] Address delivered at the Annual General Meeting held at University Hall, 14 Gordon Square, W.C.1, on July 16, 1951.

at a distance is therefore trivial. It reduces merely to inspecting various physical theories and noting whether any of them employs a concept which can be called "action at a distance" in the terminology of that theory.

However, there is then some interest in seeing if theories that do employ such a concept are to be judged better or worse than the others according to accepted criteria for the comparison of physical theories.

4. Looked at from another standpoint, (2) is equivalent to saying that we cannot in general determine directly *by observation* whether any given phenomenon is a manifestation of what we should call "action at distance."

It would take too long to consider this in detail. But you may consider how you might propose to test experimentally whether any of the above examples are cases of action at a distance. Even keeping to as "common-sense" an attitude as possible, I think you would conclude that your observations in any one case might be interpreted more naturally in terms of action at a distance than in terms of action by contact, or *vice versa*. But I think you would say that you could always retain the option of interpreting them either way. This, I think, would actually be a simple statement of the conclusion of any discussion of the subject.

The main point is, however, that we should merely be encountering illustrations of the fact that we cannot separate observation from the interpretation of observation in terms of physical theory.

Using the term "test" in an accepted sense, what we can test by observation is whether the predictions of a particular theory agree with observations *interpreted by that theory*. I think this last qualification is always needed in order to give the observations either their meaning or their interest. So we can test whether a theory using action at a distance gives better or worse agreement with observation than some other theory. This is the most important of the criteria referred to in (3).

5. In passing it might be noticed that we could draw a distinction, which it might appear easy to test observationally, between those actions from which a body can be screened by another material system and those from which it cannot be screened. But that would not be the same as the distinction with which we are here concerned.

6. The principle of contiguity undoubtedly has a strong appeal to our minds. Indeed, there is a tendency to give it the status of a metaphysical principle to which physical theory must be required to conform. However, as Professor Reichenbach[1] puts it (not in this particular connection), "We cannot admit that there is any *synthetic a priori* principle, i.e. a principle which is not logically empty and which physical theory is bound to satisfy."

The reason for the appeal of contiguity is probably to be found in the kind of experience on which our thinking is chiefly based. We ourselves cannot move a body without laying hold of it and pushing or pulling. So it is natural if, whenever we see a body in motion, we look for a pushing or pulling agency acting directly upon the body.

Had we been creatures large instead of small compared with the size of astronomical bodies, so that gravitation would presumably have been the most important kind of force in our experience, it seems unlikely that we should have accorded the principle of contiguity as high a status as actually we are prone to do.

There is also the point that, if we consider it obvious that we must have action by contact in at any rate some parts of physical theory, then a theory which avoids ever introducing the additional concept of action at a distance

[1] H. Reichenbach, *Philosophic Foundations of Quantum Mechanics* (University of California Press, 1944), p. 24.

is likely to be preferred to a theory which demands it. This would be merely on the score of economy of concepts—another of the criteria mentioned in (3).

7. There is no doubt that in striving, on whatever promptings, to conform to the principle of contiguity, physicists have been led to important advances. But this need scarcely be taken as specially significant, since it might also be claimed that Newton made even more important advances by defying it.

Some of the success attending the use of this principle is due to a consideration which, though possibly possessing a deeper significance, has a quite practical aspect. For it usually enables us to express the relevant physical laws by means of *differential equations* and that happens to be a considerable mathematical convenience.

8. A full discussion of the subject ought certainly to devote much attention to actions between the elementary particles of physics and between other systems on the atomic scale. It might indeed be considered that it would be proper to start with these whatever else we propose to do. However, while we can develop macroscopic-physical theory without employing the concepts of atomic physics, we can never develop atomic-physical theory without employing also the concepts of macroscopic physics. The reason is that atomic physics, like all physical theory, is part of the process of rationalizing our experience, and this experience is on the macroscopic and not the atomic scale. Therefore we must start with macroscopic physics (and in this paper we do not proceed to atomic physics). This point of view has been well expounded by Professor Neils Bohr.[1]

GRAVITATION

For the remainder of this paper I shall have almost to restrict myself to the case of gravitation. I propose to consider several theories in turn.

We may first remind ourselves that "space," about which we must say a good deal, is a construct and has a meaning only as part of a physical theory. It is only in a loose sense that we speak of "theories of space" as though space exists independently of any specific theory. It does not, and there is no strict sense in which space in one theory is the "same thing" as space in another theory.

Similar remarks apply to "gravitation" and to any other construct for which the same name is used in more than one theory.

Newtonian theory.—In this theory space is assumed to exist independently of matter. It is a continuum of points each of which is regarded as permanently identifiable.

Gravitation is a force assumed to be exerted by one body upon another instantaneously across the space separating them. It is action at a distance. Indeed, it was primarily in order to give a mathematical treatment of such action that Newton introduced his concept of "force."

There is no logical objection to Newton's procedure; we are not prepared to admit that there can be any metaphysical objection; it gives results in impressively good agreement with observation.

Much has been written on the subject of Newton's most-quoted remark about not making hypotheses, which concerned his not attempting to deal further with the nature of gravitation. I think he was merely asserting that the "phenomena" demanded nothing more than he had put into the theory. That is to say, so far as he knew, agreement with observation was complete; therefore no observational test was left over to be applied to anything added to the theory, i.e. anything added would be pure hypothesis—pure fancy, in fact.

[1] N. Bohr, *Atomic Theory and the Description of Nature* (Cambridge, 1934), p. 16.

It is therefore meaningless to criticize Newtonian theory because he had not put enough into it. The valid criticism, as we shall see, is that he may have put too much—identifiable points and absolute simultaneity—which may correspond to no "phenomena."

Professor Born's[1] recent assessment is that "the systematic application of contiguity to gravitation exploded Newton's theory, which was superseded by Einstein's relativity."

I should hesitate to describe the process as altogether systematic, except in its final stages. There were at least two lines of attack, and these can be said to have been only partially concerted ones, as we are going to notice.

Special relativity.—Einstein's special or restricted relativity theory was the forerunner of his general relativity theory. But it is fundamentally more akin to Newtonian theory than to the general theory. So far as any single observer is concerned, space and time have almost the same meanings in special relativity and in Newtonian theory. It is in comparing the ways in which different observers locate the same event in space and time that the difference between the theories first occurs. Of course, this produces considerable consequential differences. Judged by the usual criteria, special relativity is a "better" theory than Newton's.

The main consequential difference that concerns us is that special relativity denies a meaning to *absolute simultaneity*. In Newtonian theory, if an observer assigns the same epoch to two events A, B at different places, all observers must agree that A, B are simultaneous; in special relativity, if one observer assigns the same epoch to A, B, a different observer will in general not do so.

This in itself suffices to show that Newton's concept of a force acting instantaneously across space cannot be taken over into special relativity. For, if one observer describes the action as instantaneous, any other observer will in general not do so.

In fact, we can show that in special relativity gravitational force must be propagated with the speed of light. (According to the theory, this speed is the same for all observers.) For, were gravitation to be propagated with greater speed relative to any observer, then the theory shows that we could arrange for another observer to observe the effect of an operation performed by himself before he has performed it. Were gravitation propagated with any less speed, then the theory would require that the gravitational force on a body should depend on its velocity as well as its position. Once again, there is no metaphysical objection to these results, but they would be contrary to observation.

The most thorough technical investigation of this problem was given some years ago by Professor Synge.[2] It was based on different arguments from those given here, but the conclusion, so far as we are concerned, was the same.

We must then conclude that relativity theory demands that whatever is to replace Newton's action at a distance should be an effect propagated through space with finite speed (actually the speed of light). It seems almost self-evident that such an effect cannot be called action at a distance. For any investigation of the propagation process would inevitably appear to be an admission of contiguity.

There is, however, another aspect. The idea of what is called the Fitzgerald-Lorentz contraction is well known. According to this, an observer in motion relative to a given body sees the body as contracted in the direction of the motion. The formula for the contraction is an elementary deduction from

[1] M. Born, *Natural Philosophy of Cause and Chance* (Oxford, 1949), p. 17.
[2] J. L. Synge, *Trans. Royal Soc., Canada* (3), **28** (1934), pp. 127–71.

special relativity. It is such that, if we could apply it to an observer moving with the speed of light, the body would appear to be contracted to *zero length* in the direction of motion.

Now *we* say, for instance, that the distance from the Sun to the Earth is about 93 million miles and that a photon (a light quantum or light corpuscle) takes about 8 minutes to make the journey. Instinctively we should describe this by saying that the photon is "on the way" for 8 minutes.

However, if we could suppose an observer to accompany the photon and if we then apply the above result of the Fitzgerald-Lorentz contraction, we should conclude that *this observer* would describe the distance travelled as zero and the time taken also as zero.[1]

Our earlier argument shows that an effect which Newtonian theory treats as instantaneous, relativity theory treats as being propagated with the speed of light. Our further argument then shows, however, that from the standpoint of the effect itself the process is, even on this same relativity theory, again instantaneous.

It is tempting to assert that special relativity has abolished action at a distance by simply abolishing distance—from the standpoint of the action itself!

These later arguments are not, however, strictly valid. For an observer requires suitable physical measuring and recording devices. A consequence of special relativity is that no such apparatus can be made to travel with the speed of light. Consequently we are not allowed to credit the "action" here discussed with the ability to acquire any "standpoint" at all.

Nevertheless, crude as our discussion may be, it serves to show in the first place that the distinction between action by contact and action at a distance is not a very well-defined distinction.

In the second place, without going into further detail, our comparison of Newtonian theory and special relativity shows that the problem of action at a distance is much more closely bound up with matters of mathematical convenience than with anything in the theories that can be regarded as "directly" verifiable by experience.

General relativity.—The line of thought concerned with the meaning of simultaneity was one of those leading to Einstein's general relativity and his theory of gravitation. The other line goes back a long way, at least as far back as Faraday.

It is well known that Faraday's picture of tubes of force and related concepts led to Clerk Maxwell's theory of the electromagnetic field. This theory gained its greatest vindication in the work of Hughes and of Hertz on electromagnetic waves, which led to the possibility of treating all known forms of radiation as being exactly the same thing.[2]

Successes of this kind suggested the possibility that other parts of physical theory might be reduced to field-theories. The one great triumph of this approach was Einstein's general relativity.

This is a theory of space-time and gravitation (in the loose sense in which such a description has a meaning). However, it is fundamentally different from any previous theory. For it does not contemplate a field existing in an independently existing space. It contemplates but a single entity—the *field*. One feature of this entity—its "four-dimensionality," as Einstein puts it—

[1] For this observer, the energy of the photon would also be zero. This is because the Doppler effect would reduce the apparent intensity of the source of radiation to zero; the inference is consistent with the fact that special relativity assigns zero proper-mass to a photon.

[2] This is literally true. The radiation from a source of, say, visible radiation would appear to be X-rays, heat rays, radio waves to observers differing only in their velocity relative to the source.

is space-time. Another feature—its "curvatures," as mathematicians say—are the density, stress and momentum of matter.

Excluding electromagnetic effects, everything else in classical physics—space, time, matter and its dynamical state, gravitation, aether—thus become unified. These all become properties of the field.

Even the classical terms are no longer needed. So long as an observer belonging to the field has any language adequate to describe his own immediate experience, the predictions of the theory can be expressed directly in terms of what he will experience.

The observational tests of general relativity can be claimed to show at least that it agrees better with observation than does any other theory of what are commonly called "the same" phenomena. On every other count, too, it is better than any other existing theory. Chief amongst these is that just mentioned, that it replaces several independent fundamental concepts by a single one.

As regards action at a distance, I think it fair to say that a field-theory, in the pre-general-relativity sense, is currently regarded as the antithesis of action at a distance. For the field, so to say, supplies the element of contiguity. Therefore we might suppose that the most thorough-going and triumphant field-theory of all, namely general relativity, is a triumph for the principle of contiguity. This is undoubtedly so, but it scarcely says enough. For the problem of action at a distance in any familiar form ceases to have a meaning in general relativity. Pure general relativity never mentions "force." So the problem of action at a distance in general relativity would be that of the transmission, across one property (space) of the field, of another property (force) that is not there at all! If contiguity exploded Newton's theory, it has itself somewhat suffered from the blast.

[It is often a scientifically useful exercise to "translate" relativistic results into classical terms, but this is a type of exercise that would only confuse present issues.]

Other theories.—Let us go back a little way. We may take it that Newtonian gravitation is the typical example of action at a distance. We may take it, too, that any field-theory, in particular one whose field is in Newtonian space, is generally considered to satisfy the requirement of contiguity.

Newtonian gravitation, however, can be and commonly is treated in terms of a field of gravitational potential or of gravitational intensity.

Therefore I do not see that, even at this level, there is a significant distinction between action at a distance and action by contiguity. The matter seems to be rather one of mathematical convenience.

The theories already mentioned can all be said to regard space (or space-time) as a continuum of events. The object of the theories may be said to be to associate an effect at one event with an effect at another event. Now it does not seem to me to be particularly important whether or not we express this association with the aid of any continuous chain of the intervening events, when, as seems certainly to be the case, we have to regard most of these intervening events as being in any case unobservable. The really fundamental question appears rather to be, Ought these intermediate events to be there at all? In fact, is the "empty" space of any of these theories as empty as it ought to be?

To this question, two kinds of reply appear to be possible.

One is to say that physical theories must be developed in terms of *phenomena* and *interphenomena* according to something like the views of Professor Reichenbach (*op. cit.*). He expounds these views expressly in relation to quantum mechanics and I do not think he himself considers them to be

required in classical physics. But it seems to me that the theories of classical (macroscopic physics) which we have been considering do require them.

The other reply is to say that a physical theory must be developed in terms of observables only.

Two years ago, on the corresponding occasion, the late Professor Milne[1] gave you an account (based on joint work by himself and Dr. G. J. Whitrow) of certain aspects of his theory of *kinematical relativity*.[2] This theory was intended to be framed only in terms of observables—to be, as Milne said elsewhere, "the philosophy of perception put into practice." It is probably the nearest to this that has ever been got in theories of space-time. But its treatment of gravitation was not entirely upon this level. So it is not yet possible to say whether a theory can be successfully developed in this way.

If a theory of this nature could in fact be got I think it would be hailed as a triumph for the principle of action at a distance in much the way that general relativity is for the principle of contiguity. At the same time I should expect the principle to be scarcely recognizable in the theory itself.

Conclusion.—Physical theory never reaches finality. Certain "principles" or "doctrines" and their antitheses exercise a great influence at various stages in its evolution. In the process of evolution, however, the meaning of any one of these principles changes and what starts by being an antithesis tends to become a complementarity. A famous example is furnished by the doctrines of the wave and corpuscular natures of radiation. Another example seems to be that of action at a distance and action by contact.

W. H. McCrea.

University of London.

(II) ON THE STATE OF MODERN PHILOSOPHY

J. Hartland-Swann

To the educated non-specialist, modern philosophical discussion must have something of a paradoxical flavour. For it is quite obvious that philosophers are still not agreed what is the proper subject of philosophical inquiry, let alone what method will further the search for truth or (if that phrase is disliked) effectively clarify problems. Yet the sharp dividing line of a few years ago—the dividing line between those who regarded philosophy as only concerned with the analysis of language and those who regarded it as concerned with the traditional speculative problems—is tending to-day to become rather blurred. Why is this so?

Until comparatively recently there were two main courses which prospective philosophers could follow according to their inclination. On the one hand, there was the course prescribed by the most influential and cohesive members of the analyst school—the logical positivists—and this course seemed to offer certain solid if limited advantages. Instead of wasting time on otiose speculative issues, one clarified verbal confusions, punctured the pretensions of past philosophers, "dissolved" age-old problems and manipulated symbols with mathematical virtuosity. Along with all this there went a feeling of intellectual superiority, a feeling of "How could those once respected figures of the past have been so blind?"—and equally a great sense of relief that metaphysics, with all its rigorous demands on our thinking capacities, could now safely be dismissed as nonsense. This course seemed to many—and still

[1] E. A. Milne, *Philosophy*, 25 (1950), pp. 68–72.
[2] E. A. Milne, *Kinematical Relativity* (Oxford, 1948) and earlier references there given.

seems to some—the only proper course to follow. For the method involved could be reduced to a very simple formula. Single out some traditional problem, strip away the linguistic confusions, and it will then be clear whether there is some residual problem (which can be properly handed over to scientists for solution), or whether we are investigating an entirely pseudo-problem. This was the piecemeal approach, the approach of the enlightened philosopher who was to consider himself, not a pontiff (as of old), but a simple journeyman.

On the other hand, there was the course recommended by the small and apparently decreasing number of philosophical die-hards who refused to consider metaphysics *démodé* and reason incapable of doing more than work out the implications of "interesting" tautologies. Those who followed this course, therefore, were committed to the belief that "speculation" was still worth while. But it seemed that unless some genius could point the way to the construction of some new metaphysical system on the grand scale, one was left merely with permutations and combinations of the older metaphysical systems. And in view of the rising prestige of analytical empiricism, with its "powerful logical technique" (as Russell put it), those who still believed in metaphysics were justifiably nervous of committing themselves to stating definitely just what truths metaphysical argument could establish. All that was certain—although this of course was crucial—was that metaphysical presuppositions were involved in any and all forms of philosophizing.

All this, I think, was rather discouraging to students of philosophy—or at least to those who suspected that there was something essentially bogus about the easy escape route proposed by the anti-metaphysical school. And often enough it led to a complete failure of nerve from which many have not yet recovered.

Nevertheless, the whole situation seems now to be changing, so that a rather different (and more encouraging) prospect is opening up. In the first place, logical positivism as such is dead (even if some positivists are reluctant to lie down), and a very much watered down version of it known as logical empiricism has taken its place. What logical empiricism is, however, is not easy to state with any degree of precision; for those who proclaim themselves its exponents have become increasingly shy of tabling a definition. (This came out very clearly in Mr. Stuart Hampshire's note on "Changing Methods in Philosophy," in the April issue of this journal.) The reason for this shyness, however, is not far to seek; for one after another the dogmas of the Positivist Manifesto (if I may so call it) have been exploded, and the disciples of the Vienna Circle have therefore had to beat a continual retreat. Indeed, the notorious principle of verification, the lynch-pin of the whole positivist argument, has been subjected to such raking criticism that one has to be extremely naïve to regard it as anything more than a highly implausible metaphysical dogma. Nor, as it it has turned out, has any useful purpose been served by introducing (as Ayer does) a "weak" as opposed to a "strong" sense of the principle—a point made abundantly clear by many critics including Lord Russell. Indeed, Lord Russell's attack on the principle (*Human Knowledge*, VI, iv), together with his admission that not all philosophical problems can be reduced to merely linguistic problems, must seem to many positivists the act of a father disowning his own children.

But—and here again we are verging on a paradoxical situation—although no single positivist tenet has been able to withstand criticism (except by the desperate expedient of appealing to some metaphysical postulate itself impermissible on positivist premises), there has been no marked disposition on the part of analyst thinkers to admit that they have been on the wrong track. This can be explained perhaps on the ground that the conveniently vague

umbrella-term "analyst" is regarded as characterizing an *attitude* or *method of approach* towards philosophical problems which anyone wishing to qualify as a "genuine" philosopher must now adopt. In these circumstances, it was obviously desirable for some competent thinker to subject the analysts themselves (including their unrepentant positivist wing) to a rigorous and searching . . . analysis. Only then could it be expected that the mists would finally clear.

This task has now been performed—once for all I believe—by Professor Barnes in his recent book, *The Philosophical Predicament.* Here we have set forth clearly and dispassionately both the virtues and vices of the whole analyst technique—in all its curious developments and variations. And although Professor Barnes does not fail to give credit where credit is due, many students (and perhaps many professional philosophers too) will feel a little uncomfortable at seeing with what ease some venerable figures of the analyst school can be bowled over like nine-pins—and how their supposed sturdy "common-sense" reactions against "speculation" come perilously near to sophistry. But it was high time that the errors which the analysts of one kind or another have foisted on their often uncritical admirers should be exposed by the same technique as has been applied so jubilantly to the speculation of metaphysicians.

Not all critics of course will be wholly convinced by Professor Barnes' arguments; nevertheless it seems to me that his book marks the end of an epoch in philosophical thought. This epoch was characterized by a series of brilliant *tours de force,* by a firework display which dazzled some and excited others, but which has now all but fizzled out. A certain amount of philosophical lumber has been burnt up in the process—for which we must be duly grateful; but philosophical thinking has been arbitrarily cramped and restricted. However, it looks as if the "analytical" approach, in the particular form it has been practised, is now virtually played out. That analysis, as a complementary technique, must play an essential part in all useful philosophical speculation, no philosopher (unless he wishes to emulate Nietzsche) can seriously doubt. But the residual good from the whole of the last twenty-five years' obsession with linguistics may be expressed in the not very exciting (though still important) formula: examine carefully your use of language and make certain that when a so-called problem is stated it can be profitably discussed.

The field then is now clear for a more fruitful form of philosophizing. But many difficulties lie ahead. In the first place there will be an inevitable time-lag before there is any general recognition among the numerically superior analysts that some re-orientation in philosophical thinking is desirable. The urge to continue with linguistic "clarification" is now deeply ingrained, and the idea that by manipulating symbols we can solve *philosophical* problems still has its attractions. Not yet, it would seem, is there any widespread acceptance of Lord Russell's recent contention that logic should no longer be regarded as part of philosophy. In the second place, although there is increasing realization that in all philosophical discussion certain metaphysical presuppositions are necessarily involved—and that the more "radical" your empiricism the more hostages you have to give to metaphysics—there is no conviction that it will again be possible or even desirable to erect some massive system of deductive metaphysics after the manner of Spinoza or Hegel. Nevertheless, it seems likely that before long there will be considerable support once more for a synoptic instead of a piecemeal approach to philosophical problems. For it is difficult to escape the conclusion that only by such an approach will the different but interrelated issues arising in the various branches of philosophy become susceptible of coherent treatment. Another

form of synoptic approach is urgently required for theory of knowledge. For the undue preoccupation with phenomenalism—now admitted to be in its death-throes—has both obscured and over-simplified many epistemological problems which the Idealists, for all their faults, recognized must be squarely faced. Not that a return to some form of Neo-Hegelianism is either likely or desirable; but there must soon be a serious attempt to co-ordinate the findings of psychology, physiology and (not least) psychical research and to assess their *relevance* for epistemology. Only then will theories of knowledge be able to do something more than translate statements about material objects into statements about sense-data.

The liberation from the analytical strait-jacket will also no doubt give a new impetus to the study of axiology in general and ethics in particular. The wrangling over the emotive theory of ethics has almost come to an end, and it seems likely that the final verdict will be that this theory's positive contribution to moral philosophy has been lamentably small. Few moral philosophers are disposed to question that ethical judgments embody an "emotive" element; but it has become increasingly clear that to regard such judgments as embodying this element and nothing else is to fly in the face of the facts. As regards value-theory in general, the destructive criticism of the analysts has served to demonstrate that it is absolutely vital for philosophers to determine, *de novo*, whether liberal ideals have in fact any rational basis, or whether, being irrational and "emotive," they might just as well be replaced by their antitheses. (It is here that the "abstractions" of philosophy become crucially relevant to ordinary human actions; for it is clearly important to decide whether there is any valid reason for, say, honouring treaties other than that of pure expediency.)

It is possible and indeed probable that some new philosophical theories, expressive of a more "liberal" outlook, are already in embryonic form—and that we shall gradually witness a reversal of the trend of the last twenty-five years. On the other hand, we may be justly reminded that in philosophy, as elsewhere, you can never put the clock back; and that a modern philosopher ignores the works of the analysts at his peril—however much he may reject their conclusions or find himself unable to profit from the cure for philosophical puzzlement proposed by Mr. Wisdom and the Cambridge school of logico-therapy. Hence it is idle to suppose that it will prove an easy task to decide the proper scope of metaphysics or to elaborate a new synthesis which will supersede the present fragmentary assaults on particular problems. Nevertheless, there is no reason to believe that the present vacuum will remain long unfilled; and it is not impossible that within a few years we shall see a renaissance of philosophical speculation—a renaissance which, in its own modest way, will be every whit as significant as that which followed the tiresome dogmatism of the Middle Ages.

J. Hartland-Swann.

University of Birmingham.

NEW BOOKS

The Perennial Scope of Philosophy. By KARL JASPERS. Translated by Ralph Manheim. (London: Routledge and Kegan Paul. 1950. Pp. 180. Price 10s. 6d. net.)

This book contains six lectures, five of which were delivered by Professor Jaspers at the university of Basle in 1947. It is a translation of *Der philosophische Glaube* (1948), though this fact does not seem to be stated in the English version. No doubt there were good reasons for changing the title; but "philosophic faith," though the phrase may sound peculiar, does indicate what "the perennial scope of philosophy" is for the author. The perennial task of philosophical endeavour is "to become authentic men by becoming aware of being; or, and this is the same thing, to become ourselves by achieving certainty of God." There is progress in science, in logic, in psychological investigation; but philosophy itself "is for ever concerned with apprehending the one eternal truth under new conditions, with new methods and perhaps with greater possibilities of clarity." Criticism breaks down the assertions and the stereotyped formulae of past systems; but we cannot overcome the past by inaugurating the "true philosophy," as Descartes, for example, or Husserl supposed that we can: the formulae of the "true philosophy" must themselves be submitted to criticism. Yet, though there is not, and cannot be, any "true system," possessing universal validity, the metaphysical systems of the past express an awareness of Being, even if each system, as a system, is dependent on the philosophical method and categories of the time and represents an individual philosopher's deciphering of transcendent Being. The inevitable fall of every metaphysical system before the attack of criticism may give birth to scepticism and nihilism; and philosophy may try to turn itself into science or into the handmaid of science; but it is the peculiar province of philosophy to keep alive or awaken the awareness of Being, even though we have to face the fact of the subjectively-grounded and relative character of every metaphysical system, considered as a system of propositions and arguments. When we remember that for Jaspers "Being" is the transcendent ground for all the empirically-given, and that Being, or God, cannot be demonstrated but reveals itself to man in the authentic exercise of his freedom, as the unobjectifiable ground and goal of his existence, we can see without difficulty how strongly he has been influenced both by Kant and by Kierkegaard.

Why does Professor Jaspers speak of "faith" in connection with philosophy? Because Being transcends phenomena and does not belong to the sphere of the objectifiable, it cannot be objectified or treated scientifically or proved. No advance can be set *a priori* to the advance of any particular science within its selected field; but science necessarily takes the form of the particular sciences; and no particular science is, or can be, concerned with Being as such, which necessarily transcends the sciences. But it is tautological to say that outside science we cannot have scientific knowledge. Man, therefore, becomes aware of Being, or God, neither as an observable object nor as something the existence of which can be proved, but as the object of "faith," as that towards which man transcends in the experiencing of limits. This is one of the reasons why it is possible for man to deny God or to absolutize beings, maintaining, for example, that "Being" is a mere word. On the other hand, philosophy, by breaking through the positivist mentality and by clarifying

for man his freedom and his potentialities of "transcendence," has a function to perform which is essential for the maintenance of a truly human culture.

Jaspers calls the faith of which he speaks "philosophic," partly in order to distinguish it from theological faith, regarded as the acceptance on authority of definite propositions about God. While he is very far from belittling religious belief, he asserts the existence of a tension between religion and philosophy, largely on the ground that philosophy cannot accept the informative propositions advanced by religion as possessing universal validity. Once given Jaspers' philosophical position, there is, of course, a tension between that philosophy and "religion"; but it appears to me that, even on his own premises, Jaspers might do better to speak of a tension between philosophy and theology rather than between philosophy and religion. For his own philosophy is, in a sense, deeply religious.

Though I certainly do not agree with all that Professor Jaspers has to say, I equally certainly find his thought interesting and, in many respects, congenial. And I think that his larger works deserve closer attention than they have hitherto been accorded in this country. But there are obvious difficulties about his use of terms like "Being." If one thinks away beings and all determinate characteristics, it might be contended that nothing is left and that the term "Being" has no meaning or refers to nothing. "Precisely," Jaspers might answer. "Being is not a thing: it is no thing. That is exactly what I have said: Being is not a thing or object. It does not follow that the term 'Being' refers to no reality; but it does follow that we can conceive it only negatively and by 'faith.' Philosophy is neither everyday knowledge nor scientific knowledge." Do we then pass into the sphere of propositions which, in positivist language, possess only emotional significance? I do not think that Jaspers would say that this is the case; nor do I wish to suggest that he ought to say so. But the curious situation arises, that Jaspers cannot possibly, once given his own philosophy, provide that analysis of a term like "Being," which the logical analyst would demand before he would be prepared to take the philosophy seriously. Must one content oneself with saying that there are different conceptions of philosophy and different philosophical languages, and that the one language cannot be translated into the other? If so, what is the cause of this state of affairs? I shall not attempt to answer these questions; I simply observe that they arise.

F. C. Copleston, S. J.

The Place of Reason in Ethics. By S. E. Toulmin. (Cambridge University Press, 1950. Price 16s. net.)

Mr. Toulmin has written a first-class introduction to moral philosophy in the modern idiom, and first-class introductions in any idiom are rare. But he has done more than this: he has tried to put ethical enquiry back on to the right lines. To say "back" is in no way to decry his originality, for he has given a fresh impetus to a subject liable at times to get into the doldrums and is escaping from an intellectualism which makes ethical thinking either purely theoretical or purely emotive. His argument is well-ordered; his judgment good; his language lucid and lively, if at times rather too colloquial for an old-fashioned taste. His comparisons between ethics and science gain a richness of texture from his training as a physicist. Yet he has not ceased to be humane—he draws his illustrations from Greek and Russian literature as well as from English and French. Perhaps he is a little less strong in the history of his subject; but if he is sometimes over-simple, he is so deliberately. Whether we agree or disagree with him, he will certainly make us think.

The great merit of the book is its primary concern with action. Although the author considers himself to be dealing only with the logic of ethics, and although he is much occupied with the linguistic form of ethical language, his main discussion is directed to one question—*What reasons are good reasons for coming to moral decisions*? The answer to this question will determine the place of reason in ethics—and he claims that his approach is novel, even revolutionary. Perhaps to some extent it is, but at times he speaks as if he were doing something entirely different from what has been done by a rather misguided class of men known as "philosophers," of whom he is not one: he will not add to the "flood" of ethical writing, but will provide a "dam" for its control. This ambition is easier to cherish than to realize, but it adds to the liveliness of his writing and stimulates the expectation of his readers.

Part I examines what is called "the traditional method" of ethics. This is said to manifest itself in "the objective approach," "the subjective approach," and "the imperative approach"—that is, roughly, in the doctrines of G. E. Moore, of Hume, and of Stevenson and Ayer. These "approaches" are supposed to cover "the three chief, logically simple doctrines, from which the more complex theories are developed." One reader at least finds this classification unduly narrow. With all respect for Professor Moore, it does little justice to Plato and even less to Aristotle—both of them surely pioneers of the objective view—to regard them as less simple exponents of the doctrine that goodness is a non-natural, unanalysable, intrinsic property of things. As to Kant—and the same is true of his idealist successors—he cuts right across the classification and cannot be tortured into this framework at all. But if we take "the traditional method" to be confined to the last fifty years in England and America, Mr. Toulmin's criticism is a really beautiful piece of work which could hardly be bettered. His main contention is that the three "approaches" all spring from the same error—the error of supposing goodness to be something that must *either* be "in the object" *or* "in the subject."

Part II offers us a brief, but valuable, analysis of scientific thinking as a preparation for the subsequent analysis of ethical thinking. It too could hardly be better done: even the hoary topic of the stick bent in water receives fresh and interesting treatment. Mr. Toulmin has no use for elementary propositions and atomic facts. He insists that words have meaning only in their context, and that science is to be understood in relation to the function it performs. He takes, in short, a teleological view of meaning, and approves of trusting logic "only so long as it keeps in touch with life." Although here also he is a trifle cavalier with his predecessors, his analysis is masterly without becoming over-weighted by technicalities, and it prepares the way admirably for his ethical discussions.

In Part III we come to grips with the main topic—the nature of ethics. Mr. Toulmin again makes a welcome endeavour to keep logic in touch with life. He insists on what he calls the "versatility of reason," refusing to force ethical thinking into an alien framework or to judge it by standards derived from some quite different discipline. His work is always thoughtful and suggestive; and if his strivings towards a positive doctrine are not invariably convincing, it is far more difficult to be constructive than to be critical. In spite of his clarity of expression, his willingness to see all sides of a question, and his keen eye for concrete moral behaviour, he does not always free himself from the modern tendency to blur fundamental distinctions. Thus he uses the word "principle" in a way that is inconvenient, if not loose: he seems to apply it to almost any kind of moral rule. For the sake of clarity it might be well to distinguish between moral rules, moral laws, and moral principles. Moral "rules" are directed to a *particular* situation—for example, you ought

to give school colours to the best cricketers. Moral "laws" are directed to a *general* situation—for example, promises ought to be kept. The word "principle" is most conveniently restricted to *universal* laws for which it is impossible to find any further reason. Mr. Toulmin no doubt distrusts principles in this traditional sense of "first principles"—it is part of his desire for concreteness; but his language seems to hamper him as regards the fundamental problem which neither he nor any other ethical thinker can hope to avoid.

He recognizes two stages in the development of ethics (at times he appears not to distinguish ethics from morality). There is first a closed society governed by fixed rules where duty is the "done" thing. Curiously enough, he regards this as the stage of "principles" *par excellence*—perhaps because you are here not supposed to go behind the rule. With the development of a more open society we reach the stage of criticism: fixed rules may be judged by some "overall" requirement or standard such as the prevention of avoidable suffering. That is to say, we pass beyond a "deontological" code to a "teleological" criterion which amplifies it. This does not annul the code, but it does enable the code to develop. He claims that this view distinguishes his doctrine from utilitarianism. It certainly has the merit of indicating that our ethical thinking does not start from scratch any more than our scientific thinking. Yet even Mr. Toulmin finds it difficult to keep the existing moral code as an independent guide, for he asserts in the end that his teleological criterion is a reason for following the moral code as well as a ground for criticizing it. And it would surely be more convenient if his overall requirements (or standards for which no further reason can be found) were described as principles—first principles. They have far more claim to be so described than the fixed rules of a static society or even the code of a developing one.

Mr. Toulmin's own first principle—if this long-established terminology may be used—is teleological or utilitarian, but it is not altogether unambiguous. At times it is purely negative—we ought to avoid preventable suffering. At other times it is positive and surely more satisfactory—we ought to harmonize desires and interests in a society. Mr. Toulmin seems to be unconscious of this difference, though it has far-reaching ramifications; and consequently he gets into difficulties, for example, when he treats of perfect and imperfect obligations (although not under these terms).

Utilitarian principles have one great advantage: they at least formulate moral laws accepted by any sane philosophy. But are these laws properly regarded as first principles or can we find a further reason for them? Mr. Toulmin thinks not, but he fails to discuss the objections to his doctrine. If we seek to go beyond his version of the utilitarian principle, we must—if I understand him aright—fall back on a *personal* decision; and ultimately our judgment between Christian and Mohammedan marriage (or between having one wife or more) depends on our preference for one type of society over another. He is right in emphasizing the close connection of moral codes with existing societies, but this does not warrant his conclusions, and he fails in my opinion to grasp other factors in his problem. He does indeed see that a moral law must be universal; he is aware that a good man must not merely do no wrong, but must *want* to do no wrong; and he even speaks of a self-command that looks very like a duty to oneself. These crucial topics, however, he reserves for a further treatment, which I hope he will not fail to undertake. For himself, when he comes—in Part IV—to "the boundaries of reason" and to what he calls "limiting questions" beyond our final personal preference for an existing society and its codes, he falls back on religious faith. His discussion of this topic is thoughtful and suggestive, like all the rest of his work, but it is too brief to do more than sketch a possible line of enquiry.

Mr. Toulmin's book is so excellent that it calls for criticism by the highest and most exacting standards. I hope I have made it clear that in my opinion he is, in spite of gaps and defects, on the right lines if only he will pursue them further. Others may think he has gone off the rails altogether. But at least he deserves to be widely read. H. J. PATON.

Kierkegaard Studies in Scandinavia. By AAGE HENRIKSEN. (Munksgaard, Copenhagen. 1951. Pp. 160. Price 21s.)

This volume—the first publication of the Kierkegaard Society in Copenhagen—is a historical and critical survey which will be of use to specialists in the study of the Danish thinker. Its author is, as he tells us, more familiar with literary history than with theological and psychiatric concepts; but those who are interested mainly in theology or in philosophy will find him a competent guide to the Danish interpreters and critics of Kierkegaard's views on these subjects. A writer is presumably understood more easily by his compatriots than by foreigners, but in this case there seems to be almost as great a diversity of opinion in Denmark as elsewhere.

Needless to say, a work of this kind must be academic rather than popular. It is not made more lively by an English translation which, while it seems to convey the author's meaning, is not a source of independent literary pleasure. Although we have here a lucid and scholarly piece of work, twenty-one shillings is rather a high price to pay, even in these days, for the moderate-sized book enclosed in paper covers. H. J. PATON.

Good Will and Ill Will: A Study in Moral Judgments. By FRANK CHAPMAN SHARP. (The University of Chicago Press. Pp. 248. Price 37s. 6d.)

This book is a welcome addition to the ethical writings of the late Professor F. C. Sharp. Steering his way cautiously between intuitionism, which he detests, and appeals to authority, Professor Sharp urges that our belief in the objectivity of moral judgments admits of no justification other than that which derives those judgments, in the last analysis, from our desires and likings. He has a shrewd grasp of the implications of this view and considerable insight into common ethical reactions based on a life-time of systematic observation. Those who wish to avoid subjectivism without recourse to some kind of intuitionism will thus find this book especially suggestive, but others will also learn much from it, especially where the psychology of moral attitudes and the place of imagination in moral judgment are concerned. Professor Sharp writes clearly and simply, and his editor has judiciously filled the gaps in the manuscript with excerpts from the author's earlier writings. None-the-less the main position seems to be exposed to considerable strain at times.

What account, for example, can be given by the author of the fact that we plainly desire many things which would rarely, if ever, be adjudged right? Here Professor Sharp argues, in the first place, that all desire is for some good, irrespectively of who the person may be who enjoys it. The nature of goodness is not expressly examined although the impression is left that it also depends in turn on desire. The predilection we commonly show for our own good or that of our friends is thought to be mainly due to lack of imagination, altruism and egoism being thus "nothing more or less than two branches from a common trunk." But this seems to me a bold assumption on which it is highly misleading to lean in urging that we *ought* to have regard

for others. Another difficulty to be overcome is that we often seem to judge an act right independently of good effects. Here Professor Sharp makes two suggestions, the first and most laudable being that past experience, habits and social customs have put a special premium on certain types of action which we tend thus to require when their good results are in no way foreseeable. But can the utilitarians account in these terms for the sanctity which the author himself ascribes to the promise made to a dying man unknown to any other? At this point, one of the very few where account is taken of work done by British moralists on problems very similar to those Professor Sharp discusses, I am sure the utilitarian will need to be more ingenious than Professor Sharp. For it will not suffice here to stress, as he does, the need to give general encouragement to certain practices; *ex hypothesi* the deviation will never be known. In his second expedient Professor Sharp distinguishes between aesthetic and moral judgments on conduct. The latter take more than one form. They may refer to the aims we actually adopt, or to the aims we would have adopted had we known the facts better, or (in the case of *moral* as distinct from *right* volition) to the motive, understood, it would seem, as the desire for the end we have directly in view in aiming at the total result we foresee. The discussion of these matters, reminiscent of much recent ethical controversy, is not as clear and precise as one would like, and it seems odd to pass judgment on the motive, in the present sense, in abstraction from the total aim. Ross's distinction between the "morally good action" and the "right act" is much more carefully drawn in this respect, for we would hardly say that a robbery was redeemed when the aim was to educate one's children. But what matters most is that, according to the author, none of these moral judgments takes account of feelings that accompany actions or of such qualities of conduct as "courage, fortitude, self-control, perseverance." These, it seems, "are not in themselves moral qualities" but beautiful traits of character we admire in a quite distinct "aesthetic" way, although not altogether without reference to the good to which they lead. Now this is a strange position, for it seems to be in respect of courage and fortitude, etc., that we most obviously make moral judgments, and for anyone who holds, as Professor Sharp does very firmly, that voluntary action is "nothing other" than "the following of one's own desires," there seems no reason to exclude general traits of character from judgments of the sort we pass on desires which actually move us to act. On the other hand, those who believe that moral choices are not determined by character are on much firmer ground in opposing the judgments passed on such choices to any judgments we pass on either desires or other features of character. But it would be the latter rather than the former which would have more affinity with aesthetic judgments. If, however, we grant Professor Sharp his distinctions, the way is open for him to ascribe those cases in which we seem to approve or censure actions independently of their effects to confusions between aesthetic and moral judgments. But the procedure as a whole seems to me a very misleading and tortuous way of seeking to defend utilitarianism from difficulties many of which do not in fact beset it.

One further feature of Professor Sharp's work should be mentioned. It is the extensive use he makes of the results of tests of ethical reactions which he conducted on various groups of students. These tests have one serious drawback, namely that they were carried out as long ago as 1898–1910 and thus fail to take account of precisely that clarification of ethical problems in recent years which bears most directly on the sample questions which interested Professor Sharp. This is very plain in Chapter 1 which describes tests designed to elicit opinions on the relevance of consequences to moral judg-

ments. For no account is taken of the possibility that *prima facie* judgments are being over-ridden in the cases which favour a utilitarian verdict. The case against intuitionism is thus very inconclusive in respect of the form of intuitionism which has most appeal to-day. The supposition that intuitions cannot differ also fails to take account of what intuitionists commonly hold and of attempts to tackle the problem of "fallible intuitions" boldly, as in Ewing's *Reason and Intuition*. None-the-less the careful recording of these tests and the obvious skill and good sense with which they were conducted encourage an optimistic view of their possibilities, provided close account is taken by those who design them of the acutest analyses of ethical principles available. Even when the relevance of such tests to the work of the moral philosopher himself is most restricted, much may be gained for moral psychology. And, in my opinion, no one embarking on such a course of study can afford to neglect the pioneer work of Professor Sharp.

In conclusion I should like to express my interest in Professor Sharp's discussion of "retributive punishment," and especially in the insistence that it presupposes conditions of which human beings could never take account in practice—a matter which advocates of the "retributive theory" rarely consider.

H. D. Lewis.

Natural Law. By A. P. D'Entrèves, M.A., D.Phil., Serena Professor of Italian Studies in the University of Oxford, Fellow of Magdalen College, Oxford. Formerly Professor of International Law in the University of Turin. 1951. Pp. 126. 7s. 6d. (Hutchinson's University Library, London, W.1.)

Professor d'Entrèves' little book is not easy to describe. It is certainly not merely a history of "natural law" conceptions, though its method is largely historical. Critical evaluation is mingled with history, and the author does not leave much doubt about his own sympathies. The double purpose, however, does sometimes make the arrangement a little difficult to follow, and it seems, to the reviewer at least, that in one respect there is a disturbing shift of terminology, if not of opinion, between the beginning and the later chapters. In the Introduction (p. 9) Professor d'Entrèves objects to the usual type of observation about the continuity of natural law, saying that the recurrence of an identical expression in different writers is no proof of the continuity of thought from one to the other. But further on he himself seems to have come round to the continuity view, for he speaks of the close association of morals and law as the "distinguishing mark of natural law theory throughout its long history" (p. 80), and says that "its most constant feature all through the ages" has been that it asserts "the possibility of testing the validity of all laws by referring them to an ultimate measure" (p. 95). Indeed the treatise as a whole is a learned and eloquent plea for the recognition of natural law with precisely that function, and more generally, as against positivism, for the view that "the primary function of law is not to command but to qualify" (p. 78). This question is too big to argue in a review, but one criticism may be ventured. There is little in the book beyond a reference or two to Jacques Maritain to show that the author is by no means alone in his adherence to Thomism, and that pure positivism is not at present at all fashionable. The results of identifying law with the will of the State have been too painfully obvious in recent years. Nor is it made plain that the Thomist philosophy is associated with a particular form of religion, and that what some critics have against it is not that the natural law it prescribes is too vague, but, on the contrary, that in important matters the Catholic Church knows quite clearly what it does

and what it does not consider in accordance with natural law. Hence the desire for certainty may lead to an acceptance of these answers by people to whom they would not otherwise make the same appeal. *The Times Literary Supplement* for April 27th includes under the heading "Natural Law" a review of J. Messner's *Social Ethics* from which it appears that, writing "from an avowedly Catholic standpoint," Professor Messner "tries to provide a one-volume encyclopaedia of sound doctrine upon . . . contemporary political and social philosophy; including . . . family life, birth control, euthanasia, race, trade unionism, planning," etc.

Apart from such fundamental questions, however, it is astonishing how much of interest Professor d'Entrèves has managed to put in a short space. Some matters a student could certainly not find explained half so clearly in longer manuals. The distinction between Augustinianism and Thomism and its development in post-mediaeval times is, for instance, masterly. The discussion of Roman law ideas is also of great interest, though the reviewer does not agree that Justinian's compilers were really sufficiently original to make a coherent system out of the disparate fragments on *ius gentium* and *ius naturale* that they had to put together. When Professor d'Entrèves, quoting Zulueta, says that there is no assertion in the *Corpus Juris* that natural law is superior to positive law, he is, of course, right up to a point, for slavery, though contrary to nature, was legal. But in the shifting terminology of the subject it is difficult to believe that natural law was clearly separated from equity—the phrase *naturalis aequitas* is common[1]—and in a famous constitution[2] it is laid down that in all matters equity is to prevail over strict law. Indeed in a recent article Professor Biondo Biondi[3] has stressed the idea that for Justinian the Christian idea of natural law is decisive. "Un dualismo tra diritto dello Stato e diritto naturale, postulato come immanente nella dottrina luterana, non e concepibile nella dottrina e nella politica legislativa di Giustiniano, come non e ammissibile nella concezione cattolica, la quale identifica *ius* e *iustum*,"[4]

It may be doubted whether this formulation does not also flatter the Emperor Justinian by attributing to him greater consistency than he—or indeed any other legislator—could achieve, but Professor d'Entrèves will perhaps consider it in the next edition. In any case a second edition is certain to be wanted soon, for there is a lightness of touch in the book, in spite of its learning, which is most refreshing in a work on this subject.

H. F. Jolowicz.

A Century of Science Ed. Herbert Dingle. (London: Hutchinson's Scientific and Technical Publications. 1951. Pp. 338. Price 15s.)

The century which has passed since the Great Exhibition of 1851 has, it is generally agreed, witnessed a greater development of scientific knowledge and its application to human purposes than has the remainder of recorded history. As to whether this has been to the benefit of mankind there is far less agreement. This confusion, in which the wildest of claims are matched only by the wildness of the denunciations, is too often based on inadequate knowledge, if not actual distortion of the facts. It is the purpose of this book, and of its companion volume, *A Century of Technology*, to set down the facts, as well as

[1] Pringsheim, *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte*, Rom. Abt. XLII, 667.
[2] C. 3. 1. 8.
[3] *La Concezione Cristiana del, Diritto Naturale nella Codificazione Giustinianea*, Jus 1 (1950), p. 2 *sqq.*=Mélanges De Visscher, 3, 129 *sqq.*
[4] P. 23.

may be in the compass of 316 pages of text, as a final court of appeal. It may frankly be doubted whether any such aim could be achieved under such conditions—selection is inevitable; so that what emerges is not "the" facts, but those which have seemed most representative to the eighteen men of good will, experts in their several branches, who have contributed to it. It need hardly be said that there is probably no one living who could justly claim to criticize more than a very few of these contributions: the present reviewer, having an expert knowledge of none of these fields, can at least be trusted to make such comments as he feels able to do, with complete impartiality. And this is all that will be attempted here.

A book of this kind always suffers under the handicap of being written for Everyman. Thus this well-known seeker after truth will start out with high hope as the result of reading Professor W. Wilson's article on the *Concept of Energy*, though he may agree with the reviewer that the writer's analogy of *conservation* in the enhanced value of his house, on whose roof the modern builder has done his worst, is none of the happiest. But after following the leaping progress of Professor McCrea towards the understanding of the *Constitution and Evolution of the Stars* he may well be gasping for breath. This is of course inevitable. The other common fault of symposia, which has not been entirely avoided, is the introduction of technical terms which are explained only later in the text, often in a different article. Thus "univalence" is referred to on p. 41 and p. 54 (where incidentally it is said that "the chemical phenomena of valency already [sc. 1851] indicated differences between elements" though Frankland's paper appeared only in 1852) but given any sort of explanation only on p. 64.

It would be invidious (not to say presumptuous) to single out articles where all are so stimulating: but perhaps it may not be amiss to mention Professor Sheppard's article on the *Earth's Atmosphere*, which stands out by the novelty of treatment of a subject, meteorology, which is, as the writer himself emphasizes, far from new, yet has only recently approached the status of an exact science. Chemists will be grateful to Professor Partington for exposing the hollowness of the claim which the physicists have for too long got away with, that chemistry is merely the "dirty part of physics." Of special interest to most readers of *Philosophy* will be the articles on *General Psychology* by Sir Cyril Burt and *Medical Psychology* by Professor Aubrey Lewis: the latter contains (p. 206) the suggestive comment, "if psychoanalysis had been more scientific it would not have opened up so much unknown territory in so short a time: but neither would it have remained so elusive and protean to the enquirer from without." One is surprised to find no reference here or in the articles on physiology to leucotomy or the Bürgi rhythm, both of which have revealed new possibilities of correlation between hitherto diverse fields.

One or two points call for criticism in a journal devoted to philosophy. Outstanding in the reviewer's opinion is the persistence of what may be called the "fallacy of unconditional identity." Seizing the imagination in Eddington's infamous description of his "scientific" table (the only table that was "really" there—whatever that might mean) as mainly "empty space," it raises its ugly head in this volume in the statements that "Maxwell identified light with electromagnetism" (p. 27) and "electricity and magnetism are essentially one thing" (p. 24). This is justified by the fact that "an electric current produced a magnetic field." An electric current also produces heat in the conductor; is electricity therefore essentially the same as heat? Professor Synge goes on to say that in 1850 ". . . there were three things, all utterly distinct from one another . . . light, gravitation, and electromagnetism"—and this despite the observation by Faraday in 1846 that a magnetic field caused a rotation of the

plane of polarization of a beam of light. Professor Synge cannot have it both ways. To illustrate the nineteenth century uncritical use of "models" he goes on to say that "We think of a glowing body as a vibrating violin string, the light as sound waves in air . . ." Who are "we"? In the name of common sense surely not that long-suffering beast the Common Man? Certainly not the nineteenth-century physicists. The whole story has an air of unreality about it. I must in justice add that, after this, in my view, rather inauspicious start Professor Synge's article is a model of clarity and lightness of touch: the ice becomes thin in connection with the "curvature" of space-time, but it bears!

Apparently trivial, but not so lightly to be dismissed in a volume whose confessed purpose is to state the facts, is the Astronomer Royal's claim (in an article which charms by its lucidity and artistic balance) that "it has been found that these stars are in a state of regular pulsation and *that this is the cause of the variations of the brightness* (*italics* mine) when taken in conjunction with Professor McCrea's words "the current, though not universally accepted *view*, is that cepheid variability is due to a radial pulsation of the star" (*italics* mine). Disagreement as to interpretation of the facts is the breath of science, but not as to whether they *are* facts.

There are three points that might be misleading to the general reader. First on page 207 there is a useful table of the progress of mankind: but it is nowhere emphasized that the dates referring to "extra-Mediterranean Europe" may be as much as a millennium in error when applied to other cultures. Similarly there is an implication on p. 77 that Arrhenius's theory was one of *complete* dissociation of electrolytes. Last, the statement (p. 221) that a century ago "nothing whatever was known of the very elements of genetics" has an academic ring about it in view of the wealth of empirical knowledge gained, chiefly by the firm of Vilmorin, in the selection and maintenance of strains of plants endowed with special characters.

The volume concludes with a stimulating essay by the Editor, Professor Dingle, on *The Significance of Science*. Some might beg leave to doubt whether "this enquiry, this process of self-examination so to speak, on the part of science" can be legitimately carried out by science itself, that is, by the methods whereby scientific knowledge has been acquired. Nor is it quite clear what Professor Dingle means in saying that "the 'real' world is not only unknown and unknowable but inconceivable—that is to say, contradictory or absurd." This seems to the reviewer a dangerous statement to make at the end of a "century of unparalleled progress." Doubtless the conceptual apparatus—that of independent, "frozen" objects—has proved inadequate to the task of giving precise, even if limited, knowledge of a world beyond the *selective* experience of physics. But doubtless also, if our progress towards becoming a previously unrecorded type of supernova can be halted in time, this apparatus will be reshaped as fundamentally as was that which it has replaced.

For a composite volume it is remarkably free from serious misprints. A page reference has been missed on p. 45; and on p. 71 the printer, by making the number of ethyl groups the same in alcohol as in ether perhaps thought to improve Professor Partington's analogy but has in fact spoilt it. The paper, which varies in colour in different parts of the book, is a sorry comment on the "Festival" which the book seeks to celebrate. Having recently handled some hundreds of sixteenth and early seventeenth century books I have been struck with the distance we have progressed backwards in the three and a half centuries of the expansion of science. But this is no fault of the producers of the book, who, especially the Editor of so formidable a team, are to be thanked unreservedly. As a landmark on the road of scientific

achievement the book worthily fulfils its object, both as a rich source of information to the contemporary reader and as a noble monument for the admiration of the future. WILLIAM P. D. WIGHTMAN.

Radhakrishnan. Comparative Studies in Philosophy presented in honour of his sixtieth birthday. Various authors. (London, 1951. Pp. 408. Price 25s.)

This handsome volume is a tribute to the great Indian thinker who has devoted his life to the causes of philosophy, educational reform, and international understanding. A number of Indian, American and British scholars have contributed papers, the main theme of which is the comparative philosophy of the East and West. There are a few papers of a more specific philosophical character, and a few studies relating to particular features of Oriental thought. One paper, written by Mr. B. K. Mallik ("Radhakrishnan and Indian Civilization") offers an eloquent account of Radhakrishnan's work in Oxford.

Readers of this volume (such as the present reviewer) who possess little knowledge of Indian philosophy will acquire much information about the tendencies of classic Indian thought and its affinities with certain schools of the West. But the various writers by no means agree with one another in their interpretations of the main trends of reflection. The most salutory lesson to be derived from a perusal of these studies is that it is perilous to depict an immensely long and complex development in a few broad labels. Oriental writers for their part have often compressed the character of Western thought into a series of comprehensive descriptions. They have named it materialistic, individualistic, scientific, humanistic. Professor C. A. Moore ("The Spirit of Western Philosophy") has little difficulty in showing the insufficiency of these titles. He cites leading instances of Western philosophy that contradict one or more of these adjectives, and he asserts that it is superficial to imagine that there is any typical Western solution of problems or any typical mode of inquiry. On the other side of the comparison several writers point the lesson that in the course of its long history Indian thought has displayed many diverse tendencies and that it is equally futile to embrace its character in a few general formulae. We have heard that the philosophers of India pursue intellectual inquiry only as a means to spiritual emancipation, that the doctrines of successive schools have all been concerned with the same goal, that Indian philosophy is chiefly concerned with intuition or direct apprehension of super-rational reality and has little interest in the logical and scientific methods of Europe. It is negative, escapist, other-worldly, a striving for renunciation. A number of writers in this book take up these charges. They indicate the richness and variety of Indian thought. It has been too narrowly associated with the poetic mysticism of the Upanishads and the *vidyā* of the *Vedānta* of Samkara. Some of the texts, it appears, such as the Nyāya Sūtras, abound in passages of elaborate logical analysis. Professor A. R. Wadia ("The Philosophical Outlook in India and Europe") draws attention to the pluralistic and realistic aspects of Indian thought and Professor P. T. Raju ("The Universal in Western and Indian Philosophy") describes the ways in which the classical schools have reflected every shade of realism, nominalism and conceptualism.

Nevertheless, when all these diverse movements have been recognized, the predominant idealism of Indian thought becomes apparent in these discussions. Professor G. P. Conger ("A Naturalistic Garland for Radhakrishnan") observes that India is the home of idealism, and more than one writer compares the recurrent thesis of its philosophers with the Hegelianism of Oxford, especially with Bradley. Mr. A. C. Bouquet ("The Valuation of the Historical in

Eastern and Western Thought") writes that "Mr. F. H. Bradley has arrived at positions almost identical with many to be found in the *advaita*, and his language and thought show strange resemblances to those of the Vedānta." Professor A. C. Mukerji ("Reality and Ideality in the Western and the Indian Idealistic Thought") draws the same parallel; and it may be added that Radhakrishnan has brought out the similarity in several of his books. But the reader is forced to put this judgment beside the conclusions of other authorities. Professor F. S. C. Northrop, for example ("The Relation between Eastern and Western Philosophy") contends that Indian philosophy is directed to aesthetic and existential apprehension rather than towards intellectual understanding. The destination of philosophical inquiry is the intimate experience of the universal, undifferentiated, indeterminate reality, Nirvana, Brahman, Atman. The type of reality arrived at by the logical methods of Western idealism is deemed illusion. The apparent likenesses between the language of the Hegelians and the *advaita* has led interpreters astray. Raju denies that Northrop's distinction between Indian and Western philosophy applies to all the schools of India, but he himself draws close at the end of his essay to the picture presented by Northrop. It is hard to resist the impression conveyed by these papers that Indian classical thought is but incidentally philosophy in the sense in which it has developed since the work of the Greeks. Despite acute excursions into psychology and epistemology the classical thought of India has been preoccupied with theological or spiritual vision. Philosophy has been chiefly valued as a means towards Brahma-Vidyā. Western science and its products have been viewed with aversion by the Oriental sage, and as Professor W. T. Chan ("The Unity of East and West") remarks, the East has never understood the experimental method. Professor A. R. Wadia ("The Philosophical Outlook in India and Europe") points out that the absorption of Indian reflection in *moksa* induces a detachment from the world and its problems. It encourages a profound pessimism of spirit. M. Bouquet believes Oriental mysticism, which has had considerable vogue in the theology of Europe, to be fundamentally opposed to Christian conceptions.

It seems that the truer analogues to the system of India are to be found in the schools of Neoplatonism and in the theologies of the Pseudo-Dionysius and Eckhart. Mr. K. J. Spalding ("From Empiricism to Mysticism") quotes parallels between the transcendental utterances of Plotinus and Eastern mysticism. More might have been made of the use of the Upanishads, especially of the notion of *maya*, by Schopenhauer in view of his penetrating influence on French philosophy and literature.

It seems, in short, much easier to discover parallels between religious tendencies in Indian and European thought than between philosophical developments in the two regions. Professor Burtt ("The Problem of a World Philosophy") and Professor Northrop lay stress on the difficulty of translating Indian terms into English. The assumptions and associations of words rendered in English as "mind," "truth," "experience" are, they insist, different in the languages of India; and for many key-ideas in Hindu thought there are no equivalents in English.

The more independent philosophical papers can receive no more than hasty reference. Professor S. N. Dasgupta ("The Limitations of Science and the Inevitableness [*sic*] of Philosophy and Religion") discusses the familiar disparity between the world of sense-perception and the world of science and pleads that the scientific account should be associated with other modes of experience. Professor Mukerji criticizes Collingwood's historical theory of philosophy and defends a Kantian form of idealism. Professor E. S. Brightman ("Personalistic Metaphysics of the Self: its Distinctive Features") propounds somewhat

dogmatically the belief that the universe is a society of selves with a Supreme Person as its cause. Professor Conger takes philosophy to mean a synthesis of scientific knowledge and outlines a doctrine of a hierarchy of novel integrations in nature, from atoms to nations. Professor D. M. Datta ("Philosophy of the Body: A New Approach to the Body Problem from Western and Indian Philosophies") argues that the body is continuous with the universe and that by appropriate training we can draw upon the universal energy. There is an interesting essay by Professor M. Hiriyanna on the Rasa theory of art, and there are informative studies by other authorities on the conception of *svaprakāsa* or pure consciousness, and on certain aspects of Chinese and Islamic thought. Professor S. K. Maitra compares the Gita's conception of freedom with that of Kant, decidedly to the advantage of the former. M. H. Carré

Johannes Kepler: Life and Letters. By Carola Baumgardt. (New York: Philosophical Library. 1951. Pp. 209. Price $3.75.)

Mrs. Baumgardt's biography of Kepler does not pretend to be either a full-scale work or a piece of great original scholarship; yet the author can claim, it seems quite fairly, that it is "the most detailed as yet presented to the English reading public." She thereby draws attention to a serious gap in the literature—for Kepler's position in the history of astronomy is a crucial one—and only partly fills it. What she gives us is an *hors d'œuvre*, a pleasantly though unidiomatically written account, in outline, of Kepler's life and the development of his ideas. This will be of interest to anyone studying the birth of modern science, but in many of us it will whet a greater appetite than it can hope to satisfy.

Nowadays Kepler is remembered solely for his Laws of Planetary Motion. It is easy, accordingly, to assume that he must have been an astronomer of the kind we are accustomed to in the twentieth century. This turns out from any account of his life to have been far from the case. But the alternative picture, of Kepler the child-like genius, "driven by a mystical semi-religious fervour" (H. Butterfield, *Origins of Modern Science*, p. 56), is shown by the letters in this book to be equally over-drawn. As one reads them, one begins to see what it was like to live and work in the years on either side of 1600; how it was that ideas and attitudes which to us seem irreconcilable could be accepted as compatible by one man; and how difficult it is, when looking back, to avoid being wise after the event, and wondering why Kepler himself did not recognize what only we can know—which of his ideas were to prove of permanent value. Thus the speculative theoretician, with his pride in his "*a priori* method" and his admiration for Plato and Pythagoras ("our true masters," p. 41), rubs shoulders with the hard-headed empiricist ("speculations *a priori* must not conflict with experimental evidence," p. 61; "having built up a hypothesis . . . I never come to a final judgment in advance [of observation]," p. 73; "we can never prove anything with symbols . . . but only things already known can be put together," p. 80); the astronomer of genius is one and the same as the professional astrologer (pp. 26–7, 51–3, etc.); and the fanciful theorist, who allotted to the different planets their voice-parts in the celestial harmony (pp. 124–5), can be a devoted and practical family man and, to his friends, a source of the most sensible and worldly advice (p. 168–9). Only if we are able to fit all these together can we hope to see the problems facing a pre-Newtonian scientist as he saw them himself. We can tell now when Kepler was casting his net in unprofitable pools, but we can do so only because we have behind us all the hard-earned experience of Kepler himself. And how hard it

was for him to conceive of and establish those three simple laws of his, which it takes us only a few minutes to learn! "I ran against thousands of walls," he writes, "until, finally, I was pushed into this one direction" (p. 82).

Perhaps the most engaging thing about Kepler is his single-mindedness. Driven from city to city by the Catholic persecution of Protestants, yet denied Communion by his over-orthodox fellow-Lutherans, promised by his patrons salaries which were paid "only so far as enormous war expenses permit," forced to spend months at a time and immense energy defending his imprisoned mother against a charge of witchcraft, finally dying on a journey undertaken to recover some of that unpaid salary which he needed to support his family; through all these trials he toiled away at his astronomical computations, laboriously working through the fat volumes of observations left behind by his master, Tycho Brahe, and trying, this way and that, to hit on some principle of order which would make sense of them all. It makes a very human picture, and Mrs. Baumgardt presents it sympathetically. One's only wonder is that he did not more often let his mind wander, away from the world of war and intolerance in which he lived, to those "walled cities" he saw in the Mountains of the Moon, or the communities he felt sure must inhabit the other planets. STEPHEN TOULMIN.

Essay on Human Love. By JEAN GUITTON. (London: Rockliff. Price 15s.)

This can hardly be described as a work of technical philosophy and yet it is a work which must be of importance to the philosopher. For, although logic and wrangles about the possibility of a valid metaphysic come to absorb more and more of the "philosopher's" time and attention, it is necessary that the philosopher should remind himself constantly that, even when he is concerning himself with language, it is the language of men and women that he is analysing; when he is debating about ethics, it is with human conduct that he is concerned. And nowhere is man more himself than in those relationships which are classified together as "love."

M. Guitton has undertaken a work of great scope—nothing less than a discussion of the manifold activities which constitute the experience of loving. It is possible to reduce love to the biological impetus of physical sex, to see the emotion and affection as a sort of by-product of chemical and muscular action, to dismiss tenderness as illusion. But to those who are prepared to forget the half-truths of Freud and the myopic views of the biochemist, this book will come as a noble and inspiring piece of writing. The author approaches his subject as a convinced Christian; but that does not mean that he shuts his eyes to other possible theories about human love. He has much to say about the place of sexuality, rightly understood, even in the experience of the mystics.

In a necessarily brief review, it is not possible to attempt even a summary of his thesis. But these few sentences may serve as an indication of M. Guitton's treatment:

"Sexuality prepares the way for human love, but in order to pass from sexuality to love an act of inversion and of dying to the self is necessary. . . . In the same way, and on a higher level, in order to pass from love, in the human sense of the word, to the divine love or its image which is Agape, a new birth is needed. There is certainly a continuity between the fire of human Eros and the flame of the divine Agape. . . ." T. CORBISHLEY, S.J.

Books also received:

ARISTOTLE. *The Nicomachean Ethics*. A Commentary by the late H. H. Joachim (Ed. D. A. Rees). Oxford University Press. Pp. 304. 25s.

JACQUES J. MAQUET. *The Sociology of Knowledge: Its Structure and its Relation to the Philosophy of Knowledge*. Boston: The Beacon Press. 1951. Pp. xix + 318. $5.00.

HANS REICHENBACH. *The Rise of Scientific Philosophy*. University of California Press (London: Cambridge University Press). 1951. Pp. xi + 333. 28s.

MAUD BODKIN. *Studies of Type-Images in Poetry, Religion and Philosophy*. Oxford University Press. 1951. Pp. xii + 184. 12s. 6d.

GABRIEL MARCEL. *Homo Viator*. London: Victor Gollancz Ltd. 1951. Pp. 270. 16s.

RONALD MORRIS. *The Quality of Learning*. London: Methuen & Co. Ltd. 1951. Pp. 107. 7s. 6d.

SIR EDMUND WHITTAKER. *Eddington's Principle in the Philosophy of Science*. (The Fifth Arthur Stanley Eddington Memorial Lecture, 9th August, 1951.) Cambridge University Press. 1951. Pp. 35. 2s. 6d.

EDMUND JOSEPH RYAN. *The Rose of the "Sensus Communis" in the Psychology of St. Thomas Aquinas*. Ohio: The Messenger Press. Pp. x + 198. No price stated.

R. H. THOULESS. *General and Social Psychology*. 3rd Edition. London: University Tutorial Press Ltd. Pp. viii + 430. 17s. 6d.

DR. JOSIAH OLDFIELD. *The Mystery of Death*. London: Rider & Co. Pp. 172. 15s.

STOW PERSONS (Editor). *Evolutionary Thought in America*. Yale University Press (London: Geoffrey Cumberlege). 1951. Pp. x + 462. 32s. 6d.

GEORGE SANTAYANA. *Dominations and Powers*. London: Constable & Co. 1951. Pp. xv + 480. 42s.

ERNEST E. WOOD. *Practical Yoga*. London: Rider & Co. 1951. Pp. 255. 15s.

JOACHIM WACH. *Types of Religious Experience: Christian and Non-Christian*. London: Routledge & Kegan Paul. 1951. Pp. xvi + 275. 21s.

CHARLES BERG. *The Unconscious Significance of Hair*. London: George Allen & Unwin. 1951. Pp. v + 106. 15s.

JACQUES MARITAIN. *Philosophy of Nature*. (Trans. Imelda C. Byrne.) New York Philosophical Library. 1951. Pp. x + 198. $3.00.

GEORG HENRICK VON WRIGHT. *A Treatise on Induction and Probability*. Routledge & Kegan Paul. 1951. Pp. 309. 30s.

ARISTOTLE. *De Anima: with the Commentary of St. Thomas Aquinas*. (Father K. Foster, O.P., and Father S. Humphries, O.P., trans.) Routledge & Kegan Paul. 1951. Pp. 504. £2 2s.

T. L. VASWANI. *A Prophet of the People*. Poona: Gita Publishing House. 1951. Pp. 74. 4s.

T. L. VASWANI. *Gita: Meditations*, Vol. I. Poona: Gita Publishing House. 1951. Pp. 138. 10s. 6d.

DHAN RAJ. *T. L. Vaswani: An Interpretation*. Poona: Gita Publishing House. 1951. Pp. 39. No price stated.

TERENCE HEYWOOD. *How Smoke Gets into the Air*. The Fortune Press. 1951. Pp. 25. 5s.

F. V. SMITH. *The Explanation of Human Behaviour*. London: Constable & Co. Ltd. 1951. Pp. ix + 276. 18s.

ALLAN D. GALLOWAY. *The Cosmic Christ*. London: Nisbet & Co. Ltd. 1951. Pp. xiv + 274. 16s.

SIR ALAN GARDINER. *The Theory of Speech and Language*. Oxford University Press. 1951. Pp. xii + 348. 15s.

R. Walzer (Editor). *Plato Arabus: Vol. I. Galeni Compendium Timaei Platonis.* The Warburg Institute. 1951. Pp. xii + 160. £2 7s. 6d.

Dean P. Lockwood. *Ugo Benzi, Mediaeval Philosopher and Physician.* University of Chicago Press (London: Cambridge University Press). 1951. Pp. xvi + 441. 60s.

H. H. Rowley. *Submission in Suffering: and other Essays in Eastern Thought.* Cardiff: University of Wales Press. Pp. viii + 170. 12s. 6d.

E. J. Furlong. *A Study in Memory: a Philosophical Essay.* Edinburgh: T. Nelson & Sons Ltd. 1951. Pp. vii + 109. 12s. 6d.

Wilbur Urban Marshall. *Humanity and Deity.* George Allen & Unwin Ltd. 1951. Pp. 479. 25s.

Douglas Fawcett. *The Oberland Dialogues: Saga of the Individual.* London: Macmillan & Co. Pp. xxvii + 396. 12s. 6d.

Roy J. Deferrari (trans.). *Hugh of Saint Victor on the Sacraments of the Christian Faith (De Sacramentis).* The Mediaeval Academy of America, Cambridge, Mass. 1951. Pp. xx + 486. $4.

Jan Lukasiewicz. *Aristotle's Syllogistic: From the Standpoint of Modern Formal Logic.* Oxford University Press. 1951. Pp. x + 141. 15s.

Raymond Bayer. *Merleau-Ponty's Existentialism.* University of Buffalo Studies. 1951. Pp. 95–104. No price stated.

Michele F. Sciacca (trans. Régis Jolivet). *L'Existence de Dieu.* Paris: Aubier, Editions Montaigne. Pp. 218. No price stated.

Felix Grayeff. *Deutung und Darstellung der Theoretischen Philosophie Kants—Ein Kommentar.* Hamburg: Richard Meiner. Pp. xxiii + 226. No price stated.

Hans Reiner. *Pflicht und Neigung: Die Grundlagen der Sittlichkeit.* Westkulturverlag Anton Hain: Meisenheim Glan. 1951. Pp. 316. D.M. 17.

Paul Wyser. O.P. *Der Thomismus.* Vol 15–16 of Bibliographische Einführungen in das Studium der Philosophie. Bern: A. Francke. 1951. Pp. 120. Swiss fr. 5.80.

Richard Thurnwald. *Des Menschengeistes Erwachen, Wachsen und Irren.* Berlin: Duncker & Humblot. 1951. Pp. 448. No price stated.

J. H. M. M. Loenen. *De* Nous *in Het Systeem van Plato's Philosophie.* (Sommaire). Amsterdam: Universiteitspers. Pp. 269–84. No price stated.

Mario del Pra. *Giovanni di Salisbury.* Milan: Fratelli Bocca. 1951. Pp. 166. L. 600.

Mario del Pra. *Scoto Eriugena.* Milan: Fratelli Bocca. 1951. Pp. 272. L. 800.

Tullio Mogno. *La Filosofia.* Florence: La Nuova Italia. 1951. Pp. 266. No price stated.

Mario Corsi. *Le Origini del Pensiero di Benedetto Croce.* Florence: La Nuova Italia. 1951. Pp. viii + 188. L. 700.

Luigi Stefanini. *Esistenzialismo Ateo e Esistenzialismo Teistico.* Padua: C.E.D.A.M. 1952. Pp. 370. L. 1500.

Francisco González Ríos. *Descartes: Su Mundo Moral y Religioso.* Universidad de Buenos Aires: Instituto de Filosofía. 1950. Pp. 50. No price stated.

Juan Adolfo Vasquez. *Ensayos Metafisicos.* 1951. Universidad Nacional de Tucuman. Pp. 95. $1.50.

Schelling. *La Esencia de la Libertad Humana* (Trans. J. Rovira Armengol). Universidad de Buenos Aires. 1951. Pp. 152. No price stated.

San Anselmo. *Proslogion.* (Trans. Beatriz Maas). Universidad Nacional de la Plata. 1950. Pp. 140. No price stated.

G. A. de Brie (Editor). *Biographia Philosophica* 1934–1945. Vol. 1. Brussels: Editiones Spectrum. 1951. Pp. 664. No price stated.

INSTITUTE NOTES

The following lectures have been arranged for the Lent Term, 1952: University Hall, 14 Gordon Square, W.C.1, at 5.15 p.m.

1952		
January 25.	"Philosophy and Theology"	Professor H. D. Lewis
February 1.	"The Function of Metaphysics"	Rev. F. C. Copleston, S.J.
February 8.	"The Nature of Logic"	W. C. Kneale, M.A.
February 15.	"Philosophy and Social Science"*	Professor H. B. Acton
February 22.	"A Defence of Teleological Ethics"*	R. B. Braithwaite, M.A.
February 29.	"The Freedom of the Will"*	Professor G. C. Field
March 7.	"Man and Environment"*	J. D. Mabbott, M.A.

* Comprising the Wright Memorial Lecture, "Philosophy and Social Life."

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CORRESPONDENCE

"DEVIATION INTO SENSE"

To the Editor of *Philosophy*

DEAR SIR,

I have just read this book by O. S. Wauchope, reviewed recently with rather good-natured satire in *Philosophy* and also in *Mind*. I suppose the title came from Dryden's couplet running something like this:

> The rest to some small meaning make pretence,
> But Shadwell never deviates into sense!

Readers may well concede many interesting thoughts and originality of presentation, but I wonder if either the author or the reviewers remembered a forerunner of the main theme of the book in Pope's *Essay on Man*, Epistle II, Sec. 2, in which self-love figures in place of Wauchope's subjective life:

> Two Principles in human nature reign;
> Self-love to urge, and Reason to restrain;
> . . . Man, but for that, no action could attend,
> And, but for this, were active to no end:
> Fix't like a plant on his peculiar spot,
> To draw nutrition, propagate, and rot;
> Or, meteor-like, flame lawless through the void,
> Destroying others, by himself destroyed.
> —and so on.

There is, perhaps, the difference that, while Pope credits reason with an intrinsically valuable share in life, Wauchope seems inclined to regard it as a necessary evil—something like taxes!

Yours faithfully,

JOHN C. BEGG.

CONTENTS

		PAGE
I.	AUTHORITY AND RATIONALITY. Dr. Sebastian de Grazia	99
II.	THE AXIOLOGICAL THEISM OF A. E. TAYLOR. Professor Charles F. Sawhill Virtue	110
III.	THE NATURE OF PHYSICAL SCIENCE AND THE OBJECTIVES OF THE SCIENTIST. Assoc. Professor John J. Fitzgerald	125
IV.	MATHEMATICAL FORMALISMS AND THEIR REALIZATIONS. G. T. Kneebone, Ph.D.	138
V.	CAN MACHINES THINK? W. Mays, Ph.D.	148
VI.	PHILOSOPHICAL SURVEY: PHILOSOPHY IN ITALY	163
VII.	DISCUSSION: The Nature and Source of Moral Experience	166
VIII.	NEW BOOKS	170
IX.	INSTITUTE NOTES AND NOTICE	192

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